Institutional capacities for NDC implementation: a guidance document

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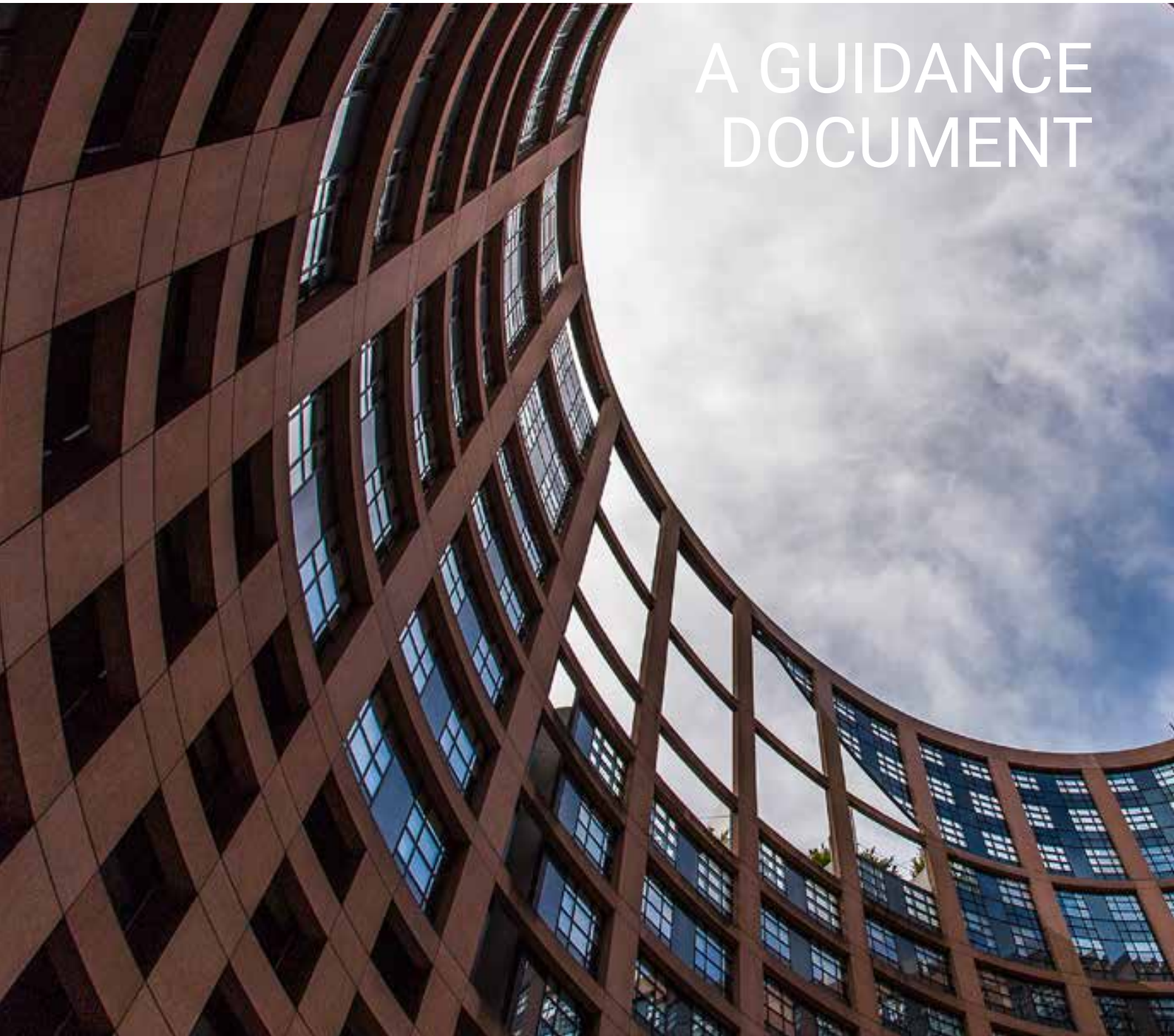
INSTITUTIONAL CAPACITIES FOR NDC IMPLEMENTATION

A GUIDANCE DOCUMENT



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The report can be downloaded from the UNEP DTU Partnership website: www.unepdtu.org
Copies of the report can also be requested by e-mail: unep@dtu.dk

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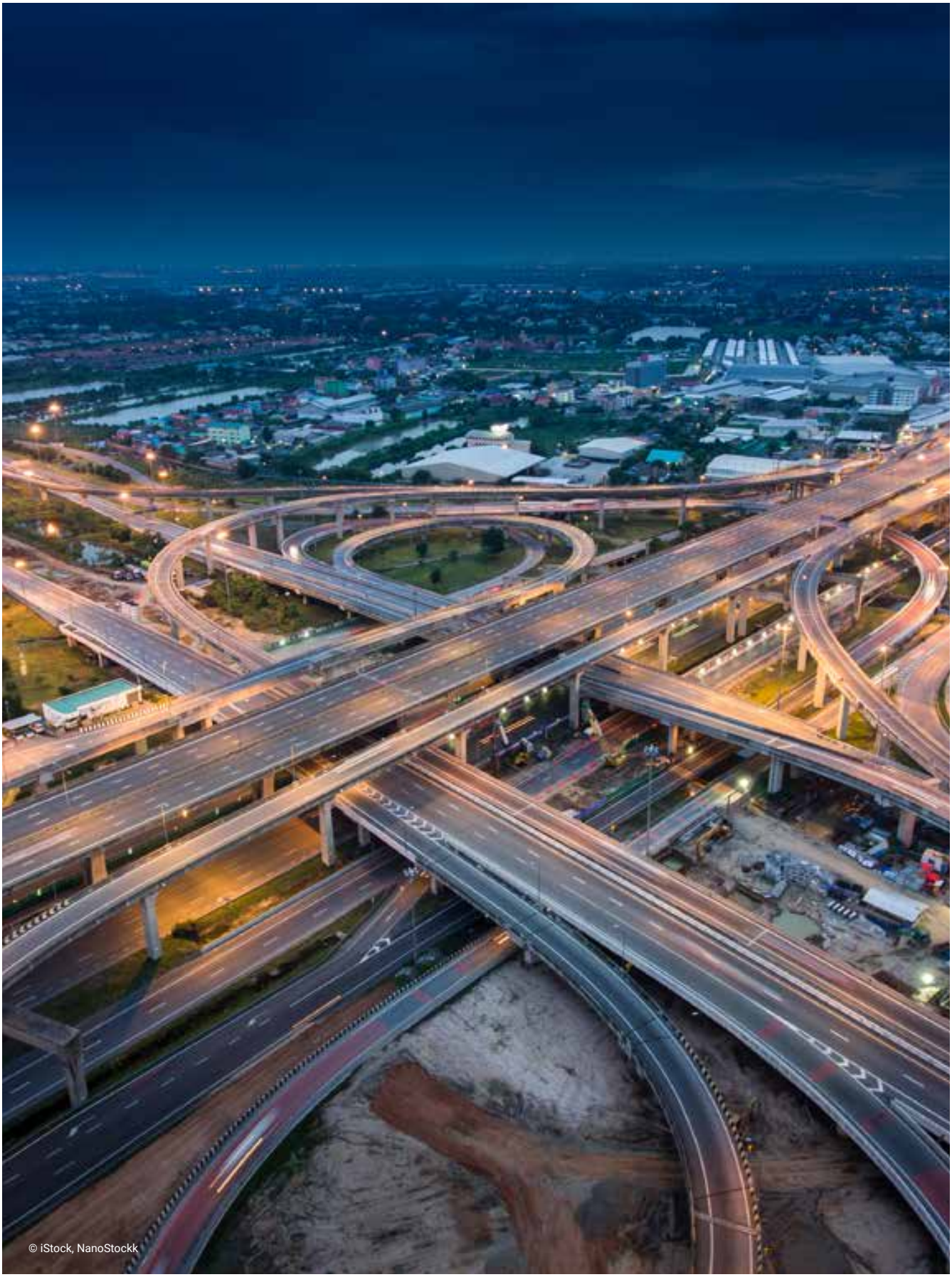
Glossary

Accession	In the context of the Paris Agreement, accession refers to the joining of the agreement after it has entered into force.
Climate fund	Reserve of money that has been set aside to finance climate change management actions, targeting mitigation, adaptation or both. To support developing country government adaptation and mitigation actions, a number of funds have been set up, notably the Green Climate Fund. Some developing country governments have created their own domestic funds.
Coordination	An interaction between peers, in which formal links are mobilised because some assistance from others is needed to achieve certain organisational goals.
Integration	The process through which sectoral policy plans and strategies are revised in order to achieve a satisfactory trade-off between priorities driven by sectoral development goals and those driven by climate-change management goals.
Human capacity	The availability of a sufficient number of staff, with the relevant skill sets, the know-how needed to perform a certain task and the enabling framework that is required to put that know-how to practical use (notably, physical infrastructure, institutional arrangements and the necessary financial capacity).
Intended Nationally Determined Contribution	Voluntary climate change management goals and targets to which a party to the United Nations Framework Convention on Climate Change committed itself ahead of the adoption of the Paris Agreement in December 2015.
Nationally Determined Contribution	Mandatory climate change management goals and targets to which a party commits itself by ratifying the Paris Agreement.
Primary legislation	Laws issued by a government's legislative powers. These laws introduce broad policy directions and principles, and thus represent the framework within which that government's executive power operates.
Ratification	In the context of the Paris Agreement, parties to the United Nations Framework Convention on Climate Change that sign the agreement are obliged to refrain from acts that would defeat the agreement's object and purpose. Ratification of the agreement signifies an intention to be legally bound by its terms. Further to signing, and prior to ratification, parties engage in more or less extensive domestic legislative processes, which are often referred to as "acceptance" or "approval".
Regulatory framework	The system of regulations, standards and administrative procedures that are relevant to implementing a certain policy action, and the related enforcement mechanisms.
Reporting	The provision of information regarding progress in implementing a certain policy action.
Secondary legislation	Regulations and statutory instructions issued by a government's executive power. Secondary legislation makes primary legislation operational by translating it into specific sectoral requirements.
Sectoral action plan	Policy plan that outlines, to varying levels of detail, depending on the country and issues considered, the goals that a government intends to pursue in a given sector, and the actions that it will adopt to achieve those goals. "Sector" generally refers to economic activities such as agriculture, road transport or cement production. It may also refer to stakeholder groups, such as households, or to topics that cut across economic activities and stakeholders, such as research and development.
Stakeholder	Any individual or group that can affect, or is affected by, a public policy programme, and any individual or group that can help define a public policy programme.

Abbreviations

ADDIE	Analyse, Design, Develop, Implement, and Evaluate
INDC	Intended Nationally Determined Contribution
NDC	Nationally Determined Contribution
OECD	Organisation for Economic Cooperation and Development
SDGs	Sustainable Development Goals
UDP	UNEP DTU Partnership
UNDP	United Nations Development Programme
UNEP	United Nations Environment
UNFCCC	United Nations Framework Convention on Climate Change



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Preface

In March 1994, the United Nations Framework Convention on Climate Change entered into force, committing its parties to "stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system". To achieve this objective, developing country parties to the Convention have been offered support, mainly in the form of technology transfer, financing and capacity building. For the most part, this support has been channelled through, and put into practical use by, institutions in developing countries – from governmental and para-governmental entities, to non-governmental organisations and research centres. Against this background, the key role that developing country institutions play with regard to achieving the objectives of the Convention should be self-evident. Simply stated, the support afforded to developing country governments will only be as effective as the institutions through which this support is delivered.

It is therefore paradoxical that, over the past two decades, the strengthening of developing country institutions has received relatively little attention compared to efforts aimed at bolstering technical capacities to produce certain pre-defined outputs, or compared to initiatives aimed at building physical infrastructure. Indeed, a screening of the literature on guidance for developing countries in the area of climate change management reveals a paucity of tools and advice focused on strengthening institutional capacities. This document goes some way toward bridging this gap. It follows in the footsteps of a 2014 report by the UNEP DTU Partnership, entitled "Institutional aspects of NAMA development and implementation".

In the present document, we describe six types of institutional capacity that are necessary to implement the kind of broad-based climate change management actions found in Nationally Determined Contributions. For each type of capacity, we identify areas where developing country government capacities are limited, and provide recommendations for building these capacities. By its very nature, the analysis presented in the document is generic, and different readers will be interested in different elements of it. Nonetheless, we are confident that, by mapping out the various issues of relevance and bringing them together in a single cohesive document, we can provide guidance that is of interest to a broad range of individuals. Although our target audience is developing country government practitioners, the content of the document is arguably of relevance to their developed country counterparts too.

When we embarked on writing this document, the notion that implementing a Nationally Determined Contribution is not a one-off undertaking was at the forefront of our minds. Indeed, the process laid out in the Paris Agreement, by which countries revisit their Nationally Determined Contributions at five-year intervals, provides an opportunity both to strengthen national ambitions and to integrate climate-change management priorities into sectoral development plans and strategies. The latter is a goal that will take time to realise, despite already having been started in many countries. From this point of view, the guidance presented in this document may be of use to the reader in both the short and medium terms.

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Executive Summary

Nationally Determined Contributions (NDCs) are commitments by parties to the United Nations Framework Convention on Climate Change (UNFCCC). Each party defines its own NDC, which in all cases includes mitigation-related goals and, in most cases, adaptation-related goals too. For most parties, the time horizon for implementing NDC goals is 2030.

By ratifying the 2015 Paris Agreement of the UNFCCC, parties committed themselves to submitting revised NDCs every five years. The revised NDCs must have an implementation period of five years and must be submitted five years in advance of the start date for implementation. The Paris Agreement also calls on parties to increase progressively the level of ambition of their NDCs.

Implementation of the first NDCs is to start in 2021. Delivering on this requirement and within this time horizon requires increased institutional capacities on the part of national governments. These capacities relate to six main sets of issues:

- Ability to launch and **coordinate** a whole-of-government process, incorporating contributions from all relevant governmental agencies and non-governmental parties as relevant.

- Capacity to **integrate** NDC priorities into sectoral and cross-sectoral programmes and projects, to ensure that the latter do not undermine efforts to achieve the former, or vice versa.

- Resources to **train** relevant government agency staff (and possibly non-government agency staff too), with a view to increasing the technical and managerial skills of these individuals.

- Ability to engage all relevant stakeholders through **consultations** designed to elicit their input, so that this can be taken into consideration, thus increasing buy-in from stakeholders.

- Competence to conduct a **regulatory framework revision**, to streamline and complement existing laws and regulations and strengthen related governmental processes and entities.

- Ability to monitor progress and **report** on it, making the best use of existing data collection mechanisms and strengthening related capabilities wherever needed.

Coordination mechanisms

As with the implementation of any policy plan that affects multiple economic sectors and stakeholder groups across different levels of governance, the implementation of an NDC can benefit from the establishment of coordination mechanisms. The appeal of such mechanisms lies in their ability to increase both the efficiency and the effectiveness with which implementation takes place. Coordination mechanisms do so by setting clear roles and responsibilities for all relevant actors and laying out the procedures that should guide these actors' in their work.

In drawing up their national communications, most countries relied on a coordination structure led by a single governmental entity. In some cases, a similar arrangement was used in preparing NDCs, and the same approach could also be used for NDC implementation: that is, a single entity is appointed with the responsibility for coordinating all aspects of NDC implementation, possibly working with designated teams within line ministries and with relevant non-governmental groups.

Key recommendations for bridging common gaps in capacity include:

- **Map out the coordination needs associated with the various NDC priorities.** In most contexts, the coordination entity will undertake tasks that are relevant to all sectors and NDC priorities, such as those related to scheduling and budgeting, as well as tasks that are specific to each individual sector or NDC priority. For both types of tasks, drawing up specific plans and noting issues to be resolved, actors to be involved and budgetary implications are pre-conditions for successful and effective coordination.

- **Set up formal working groups.** Experience shows that, when planned and executed in an ad-hoc manner, coordination is neither efficient nor effective. Establishing working groups, the mandates of which are explicit and public, can help in most contexts.

- **Establish protocols to guide the coordination process.** In addition to drawing up (and making public) a description of the work to be undertaken by the working groups referred to above, it is advisable to complement this description with a series of protocols laying out how the activities of these groups are to be undertaken.

- **Secure high-level support for the NDC implementation process.** Increased coordination across governmental agencies effectively involves a change in the status quo. Some parties may offer resistance to such change for reasons as diverse as inertia, budgetary constraints or vested interests. Engaging a high-level figure can help break down this resistance.

- **Develop an NDC implementation strategy ahead of discussions with donors.** It is advisable that discussions with donors are conducted once a clear strategy for NDC implementation has been agreed. This facilitates the overall planning of financial resources, thereby easing the burden of coordination.

Sectoral integration

The integration of NDC priorities in sectoral strategies is a pre-condition for successful NDC implementation. This is because, in the absence of such integration, sectoral strategies may include policy goals that undermine NDC goals.

Calls to integrate climate change priorities into sectoral strategies are nothing new. In fact, NDCs are often based on planning documents such as low-carbon development strategies or national adaptation plans of action, the development of which required – and in some instances promoted – sectoral integration. The improvements in institutional capacities that NDC implementation requires can help consolidate this trend.

Key recommendations to bridge common capacity gaps include:

- **Check whether there are any easy wins.** In most instances, integrating climate change concerns into sectoral policies will be a challenging task. Notwithstanding, in a number of cases integration may be relatively simple and may bring about ancillary benefits, for example, in terms of reduced local air pollution or increased food security. Looking for such "easy wins" before embarking on more demanding integration efforts is always warranted.

- **Identify early-stage projects that undermine NDC priorities.** For the projects to which changes can realistically be introduced, project-specific working groups can be created to determine feasible modifications in the project design with a view to achieving the intended sectoral development goal, while reducing the project's negative impact on efforts to manage climate change.

- **Request that line ministries take climate change goals into account.** In situations where high-level support for climate change can be garnered, it may be possible to institutionalise sectoral integration by setting aside staff time in line ministries, to ensure that policy proposals strengthen NDC priorities rather than undermine them.

- **Establish a tracking system for integration.** In the interests of ensuring continuity and increasing efficiency, it is useful to document all individual efforts to integrate NDC priorities into sectoral policy plans and strategies, thus building up a repository of knowledge that can be tapped in the future.

- **Train selected government actors.** To make the case for integration and to streamline actual integration efforts, it is advisable to raise awareness among all governmental agencies about NDC implementation and to train selected staff in line ministries and sub-national government agencies.

Human capacities

Climate change management requires a number of relatively specialised skills. For this reason, assessing the extent to which these are available, and bridging the identified gaps, are preconditions for the successful implementation of climate change policy. This is especially relevant with regard to NDCs, because NDC implementation will require greater speed than usual in implementing mitigation and adaptation actions of potentially considerable breadth. Building the capacities of those individuals who have to achieve this is likely to be necessary in most countries.

The phrase "human capacities" generally refers to two sets of issues. The first relates to the availability of a sufficient number of staff with the relevant skill sets in the government agencies charged with NDC implementation. Secondly, the phrase "human capacities" also refers to know-how and to the enabling framework required to put that know-how into practical use. In this context, the term "enabling framework" refers to the physical infrastructure, institutional arrangements and financial means needed to support NDC implementation.

Key recommendations for bridging common gaps in capacity include:

- **Integrate learning into the NDC implementation process.** It is advisable to assess the learning needs associated with each step in the NDC implementation process. Based on this assessment, it is possible to select the steps for which developing a learning component may be both feasible and necessary.

- **Centralise learning activities in one single entity.** Governments may want to strengthen (or establish, as required) the relevant entity that can be tasked to manage all needs with regard to learning in the context of implementing climate change policy (that is, including, but not limited to, the NDC implementation process).

- **Introduce incentives to avoid high staff turnover.** Increasing the know-how of government staff involves a sizeable investment, which is fully recovered only if staff turnover is low. Experience shows that, to limit staff turnover, government agencies need to offer a stable work environment, coupled with professional incentives.

- **Consider the needs of all actors.** While learning programmes aimed to strengthen NDC implementation are likely to focus on central government agency staff, it is advisable to consider the needs of a broader set of actors. Options to do so range from strengthening existing national curricula and training systems to organising generic awareness-raising and education campaigns.

Stakeholder consultation

Determining how to implement an NDC is a process that entails choices, few of which are intrinsically right or wrong. Experience from all policy areas shows that inclusive and transparent stakeholder consultations help determine such choices and help identify implementation modalities that will be more beneficial to society as a whole.

A stakeholder is defined as any individual or group that can affect, or is affected by, a public policy programme. A stakeholder is also any individual or group that can help define the public policy programme. Stakeholder consultation encompasses three sets of activities: identifying stakeholders, eliciting input from stakeholders, and determining trade-offs. The weight given to each of these types of activity will depend on the nature of the consultation.

Key recommendations for bridging common gaps in capacity include:

- **Introduce a consultation mandate and develop consultation protocols.** This typically means (i) centralising consultations in one governmental entity, to which a clear mandate is given; (ii) developing simple and clear guidelines to steer the engagement process, from coordination to actual consultation to documentation of the process and its outputs; and (iii) ensuring that the input received is properly considered, and informing stakeholders about how it has been used.

- **Strive for fair and inclusive consultation processes.** Consultation should include not only the groups that stand to benefit from the change in the status quo, but also those that stand to lose from it. Because exchanges between groups need careful management, a professional facilitator who is perceived as neutral to the topic and credible may be needed.

- **Conduct sub-national stakeholder dialogues.** All local-level decisions, and some aspects of national-level choices, will require consultations at the sub-national level. Such consultations should involve all the relevant actors, including local authorities, the communities affected and the private sector.

Regulatory frameworks

Like any other aspect of public policy implementation, implementation of an NDC necessitates an appropriate regulatory framework. The regulatory framework is defined as the system of regulations, standards and administrative procedures that are relevant to NDC implementation, and the mechanisms used to enforce their application.

The links between regulations and the institutions that uphold them is a recurrent issue in regulatory reform. Simply stated, the best regulation will fail to achieve its objective if the relevant institutions lack the capacities – human and financial resources and skills – required to implement and enforce that regulation. A further recurrent issue concerns the extent to which all the relevant actors, both within and outside government, are involved to a sufficient extent in regulatory reviews in order to inform the review process, understand the implications of the revised legislation and be in a position to comply with it. In general, the regulatory framework revisions required for NDC implementation will only become apparent as individual NDC goals are translated into specific policies and actions.

Key recommendations for bridging common gaps in capacity include:

- **Identify gaps in the current regulatory framework.** Two tasks have to be undertaken before an assessment of the appropriateness of the regulatory framework can be conducted. First, NDC priorities have to be translated into specific policy actions. Secondly, the regulatory requirements associated with implementing these actions efficiently and effectively have to be determined.

- **Take an integrated approach to the review of the regulatory framework.** The review of the regulatory framework has to be designed as a whole-of-government undertaking, involving representatives from all ministries from the outset. This calls for strong governance arrangements, possibly relying on an oversight body to coordinate the overall effort.

- **Ensure sufficient and timely communication flows.** Dialogue is needed to set up a whole-of-government approach to the review process, as well as to conduct the process itself. Not least, it is advisable that, once a consensus has been reached on any changes to the regulatory framework, the relevant governmental entity ensures that these changes are properly communicated to all the relevant parties.

Reporting mechanisms

Reporting refers to the provision of information regarding progress with the implementation of a country's NDC. This includes information about reductions in emissions and vulnerability. It also includes information about the methods used to assess these reductions and the distribution of responsibilities with regard to obtaining the required evidence, as well as communicating it to all relevant parties. Monitoring and reporting on NDC implementation will have different objectives, depending on whether it takes place at the beginning, during or at the end of the NDC implementation period. The approaches required to prepare the information to be reported may differ from one stage to another.

Key recommendations for bridging common gaps in capacity include:

- **Define clear mandates and secure high-level support.** Because the benefits of monitoring and reporting systems do not necessarily accrue directly to the entities that provide data to such systems, these entities may see few incentives in providing the data. For this reason, and especially in the context of centralised monitoring and reporting systems, clear mandates and high-level support are often needed.

- **Improve gradually upon existing systems.** When planning the strengthening of monitoring and reporting systems, it is advisable to temper the ambition inherent in most long-term plans with a sense of realism based on the human and financial resources available. In practice, this may mean taking a modular approach: building on the structures available, improvements can be defined in the form of discrete tasks, each of which makes sense to implement in its own right.

- **Prepare guidelines for all relevant actors.** The outputs of monitoring and reporting systems are only as good as the data on which they rely and the associated processes of validating, harmonising and integrating different datasets. For this reason, it is often necessary to develop protocols that guide the way in which all activities associated with the monitoring and reporting system are conducted.

- **Mainstream monitoring and reporting.** Financial constraints are often cited as a key barrier to strengthening monitoring and reporting systems. To the extent that provisions for monitoring and reporting can be incorporated into sectoral development projects, these constraints can be lessened. This approach contrasts with a top-down, multi-sector effort to set up monitoring and reporting systems, which would require potentially large budgets, the use of which would have to be justified solely against the benefits of the monitoring and reporting system.

Concluding remarks

Clearly, implementing the recommendations outlined above requires resources that, in most instances, may not be forthcoming. Experience with policy-making for purposes of climate change management shows that, to change this situation, a paradigm shift is needed. Such a paradigm shift can be achieved by (i) making a business case for private-sector investment in climate change management, (ii) exploring and quantifying the multiple benefits associated with development-oriented climate change management policies, and (iii) raising the level of ambition of climate change management policies.

In countries where investment risks are low, decided climate change management policies, coupled with regulatory and other institutional reforms, can help create business opportunities capable of attracting substantial private-sector financing for NDC implementation. The reforms needed, which are well-known, take three main forms. First, development and climate policies need to be mutually supportive. Secondly, regulatory frameworks need to be business-friendly. Thirdly, the public sector needs to be able to (i) catalyse such large investments and (ii) steer them in such a way that society as a whole benefits from them.

For certain aspects of climate change management, public policy is increasingly being designed against the background of the multiple benefits that any such policy action may bring about. Governments can capitalise on this trend by embracing it more fully through a redoubling of their efforts to integrate climate change concerns into sectoral development programmes. This notwithstanding, some climate change concerns will be more amenable than others to a multiple benefits-based approach. For issues where such an approach may be impractical, notably in the context of adaptation to climate change, climate change funds may offer a workable alternative.

A review of all Intended Nationally Determined Contributions reveals that "many [countries] desire to build national innovation capacity" in the sense of developing or strengthening their research and development capacities in the area of climate change management and using the NDC implementation process as a springboard for innovations in this area. While this remains an aspiration for many developing country governments, it reflects an ambitious reality in the case of a few such countries. All countries that have embarked on an innovation path share two distinctive features: ambitious targets (adaptation- or mitigation-related, as relevant) have been set for the sector or issue concerned, and long-term programmes have been developed and followed through. Doing this may require regulatory reforms, to maintain the focus in spite of changes in government, a great deal of coordination among governmental and non-governmental agencies, and broad consultations to secure buy-in from all relevant stakeholders.

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Chapter 1
Introduction

The Paris Agreement calls on parties to the United Nations Framework Convention on Climate Change (UNFCCC) both to implement their current Nationally Determined Contributions (NDCs) and to increase the level of their ambition in future NDCs. Doing so requires certain institutional capacities, which in most instances developing country governments lack. This document describes the key capacities needed in this context and puts forward recommendations for strengthening them. The document is aimed at developing country government agencies in charge in NDC implementation. It is based on a review of the literature, coupled with questionnaire-based data collection and interviews, and the authors' various experiences with related work in developing countries.

1.1 Nationally Determined Contributions and their role in the Paris Agreement

Parties to the UNFCCC meeting in Warsaw in November 2013 agreed to each prepare an official statement of the greenhouse-gas emission reductions that the party was willing to undertake in the period up to 2030. The parties further agreed that these statements, which were referred to as Intended Nationally Determined Contributions (INDCs), should be made available ahead of their 2015 annual meeting.

The 2015 conference of the parties to the UNFCCC concluded with a declaration, dubbed "the Paris Agreement" (UN 2015). The Agreement includes a global goal for climate change mitigation (Article 2.1), namely "holding the increase in the global average temperature to well below 2°C above pre-industrial levels".[1] In addition, the Agreement sets out a long-term, global goal on climate change adaptation (Article 7.1), namely "enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change, with a view to contributing to sustainable development and ensuring an adequate adaptation response in the context of the temperature goal".

Parties' INDCs are a central element in the Agreement. The (aggregated) mitigation objectives outlined in the various INDCs provide a measure of the collective level of ambition at

The Paris Agreement in numbers

The Paris Agreement entered into force on 4th November 2016. As of November 2017, 169 parties out of 197 had ratified the Agreement, and 163 parties had submitted their first NDCs (NDC Interim Registry (n.d.)). Figure 1.A shows the status of NDC submissions (Annex 3 presents this information in tabular form).

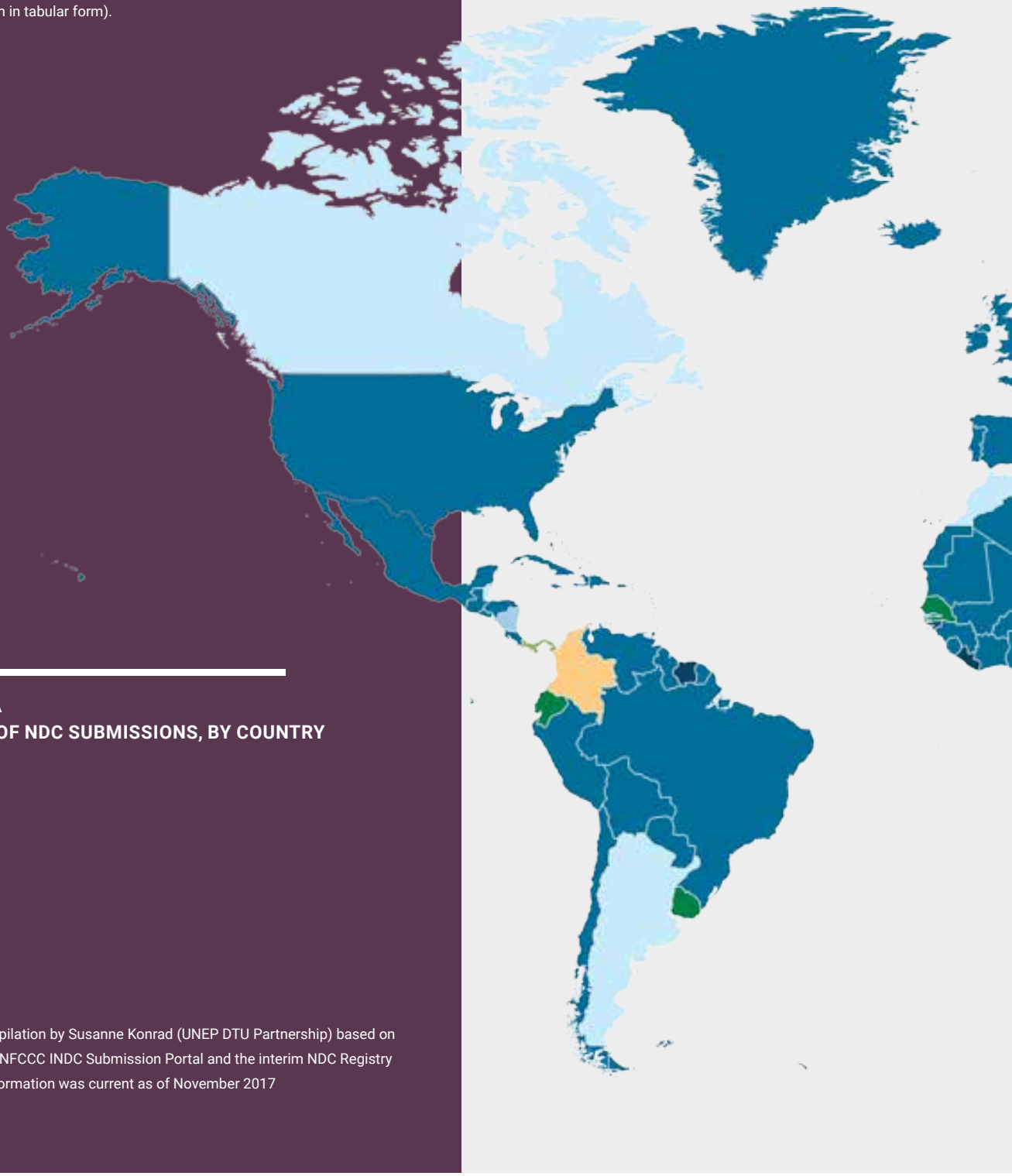


Figure 1.A
STATUS OF NDC SUBMISSIONS, BY COUNTRY

- Case 1
- Case 2
- Case 3
- Case 4
- Case 5
- Case 6
- Case 7
- Case 8
- Case 9

Source: compilation by Susanne Konrad (UNEP DTU Partnership) based on data in the UNFCCC INDC Submission Portal and the interim NDC Registry
Note: the information was current as of November 2017

The Paris Agreement: climate change goals in the context of sustainable development

Sustainable development, and the United Nations' Sustainable Development Goals in particular, have shorter time frames compared to the end-of-the-century goalpost in the United Nations Framework Convention on Climate Change. As such, and from a public policy point of view, the Sustainable Development Goals have a stronger sense of immediacy. By framing climate-change management action in the context of sustainable development, the Paris Agreement highlights the link between short-term policy action and long-term societal goals. Simply stated, the sustainable development framing underscores the importance of today's policy decisions in achieving the long-term goals of the United Nations Framework Convention on Climate Change. A heightened emphasis on sectoral integration (Chapter 3) is the key to translating such framing into national policy.

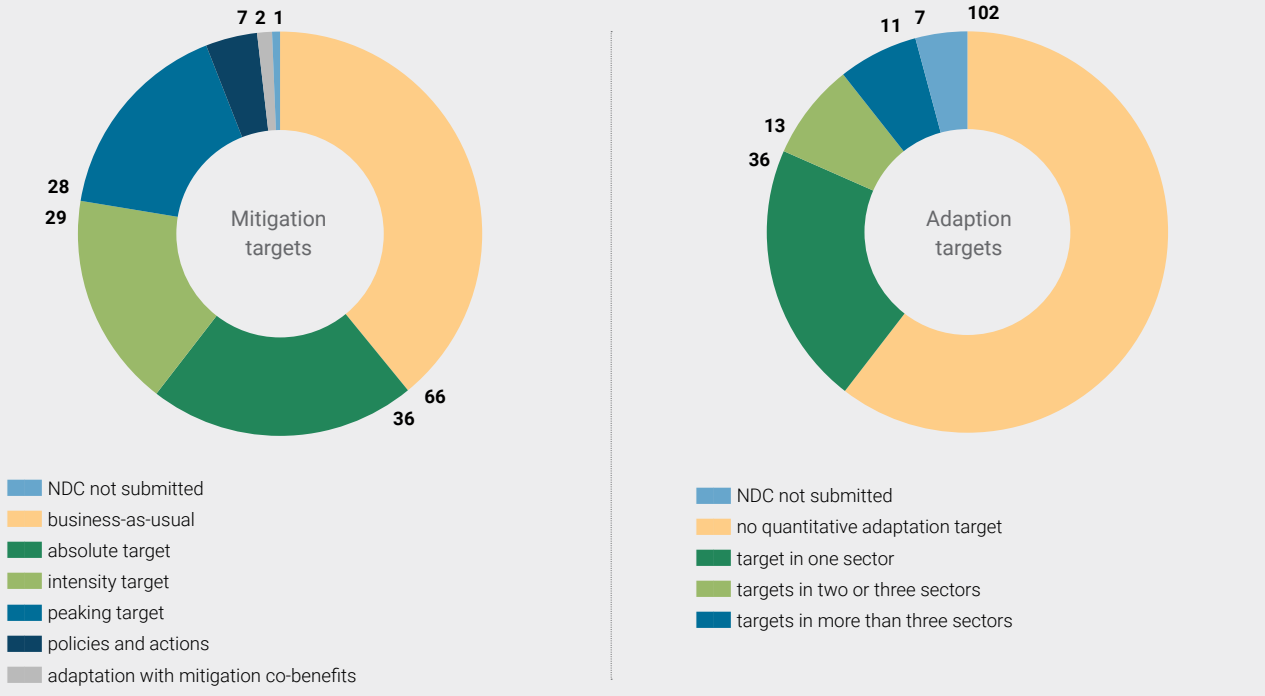
present, thus highlighting the extent to which such levels will have to be raised in the near future with a view to meeting the Agreement's global mitigation goals.

Most INDCs include descriptions of adaptation goals and, in some instances, actions. These describe national priorities and approaches, thus helping visualise what achieving the Agreement's adaptation goal might entail.

With the entry into force of the Paris Agreement, the INDCs of all those parties that have signed and ratified the Agreement became those parties' official contributions to implementing the Agreement. To signal this change in status, their INDCs have since been referred to as Nationally Determined Contributions (NDCs).[2] In the case of parties having submitted an INDC, but not having ratified the Paris Agreement, these INDCs only become NDCs upon the ratification of the Paris Agreement.

Parties not having submitted an INDC, but having ratified (or wishing to ratify) the Paris Agreement, can submit an official statement outlining their contributions to implementing the agreement. This statement will be considered the party's NDC. For example, the Democratic People's Republic of Korea ratified the Paris Agreement in August 2016 and submitted its

Figure 1.B **TYPES OF NDC TARGETS**



Source: Pauw *et al.* (2016)

first official statement in October of the same year, which de facto became the country's NDC.

Even though the parties are free to update their NDCs, few have done so (for example, Morocco added a component on land-use planning, the Bahamas removed references to energy efficiency in buildings, and Argentina revamped its entire document). In one instance (Benin, which has signed and ratified the Paris Agreement), the INDC was withdrawn, strengthened and then resubmitted as an NDC.

The mitigation targets in the NDCs are expressed in different ways. The most common are absolute emission reduction targets; relative emission reduction targets against a future "reference" level; intensity targets, expressed as a function of gross domestic product; emission-peak targets; and strategies, plans and actions for low-carbon growth, and the development of monitoring, reporting and verification systems (Figure 1.B).

In the area of adaptation, the NDCs include information about the following topics: national circumstances; long-term goals; impacts and vulnerability assessments; legal and regulatory frameworks, strategies, programmes and plans; measures or actions planned or under implementation; means of implementation; monitoring and evaluation; and synergies between adaptation and mitigation.

Most developing country NDCs mention that implementation is contingent upon the provision of financial support. While public (and private) sources are considered, these appeals mainly relate to bilateral and multilateral sources of funding.

1.2 NDC cycles and transparency with NDC implementation

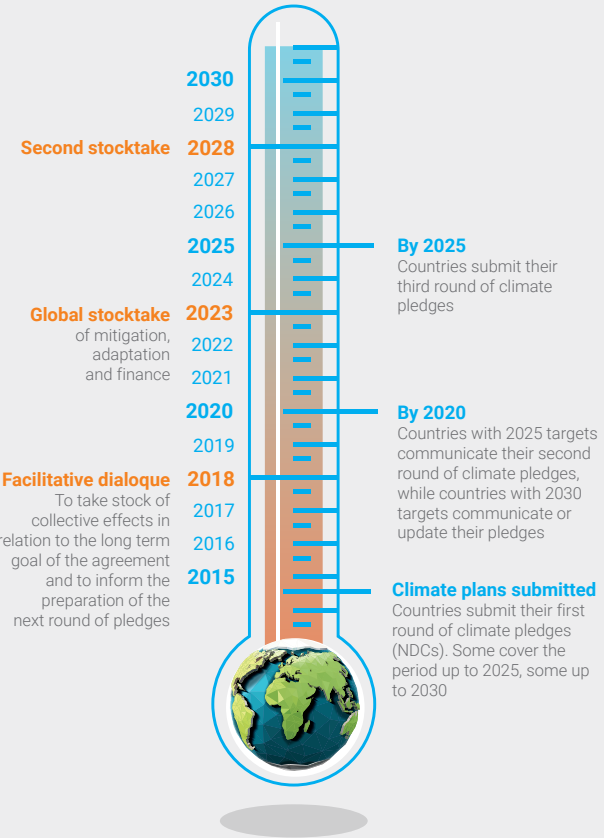
By ratifying the Paris Agreement, the parties commit to submitting revised NDCs every five years (Article 4.9). The revised NDCs are to have an implementation period of five years and should be submitted five years in advance of the start date for implementation (Figure 1.C). These requirements respond to the Paris Agreement's call on all parties to increase progressively the level of ambition of their NDCs (Article 4.11).

The implementation periods of the various NDCs vary: some parties have submitted NDCs that span a five-year period (2021 to 2025), whereas in other cases the NDCs span a ten-year period (2021 to 2030).[3] Parties in the former situation are expected to communicate a revised NDC spanning the period 2026 to 2030 by 2020. Parties in the latter situation are not expected to submit a revised NDC by 2020. However, they are encouraged to do so, and to submit a revised NDC with a higher level of ambition by 2020. By 2030, all parties are expected to have submitted revised NDCs spanning the period 2036-2040.

The Paris Agreement includes a provision for quinquennial global-level stocktakes of progress, the first of which is scheduled for 2023 (Article 14).[4] Assessing the extent to which NDC commitments are sufficient to meet the Agreement's mitigation target is a key goal of these stocktakes. The periodicity of the NDC updates, with its five-year gap between the submission of a revised NDC and the start date for implementation, are intended to facilitate the successive global stocktakes.

The success of the global stocktakes is likely to hinge on the provision of credible information about each party's contribution to implementing the Paris Agreement. To this end the Agreement introduces a transparency framework, the specifics of which are yet to be articulated (Article 13). This framework will provide overall directions in two areas that relate closely to the efforts a party makes to implement its NDC. The

Figure 1.C **NDC TIMELINE**



Source: adapted from CarbonBrief (2017)

Institutional capacities for NDC implementation

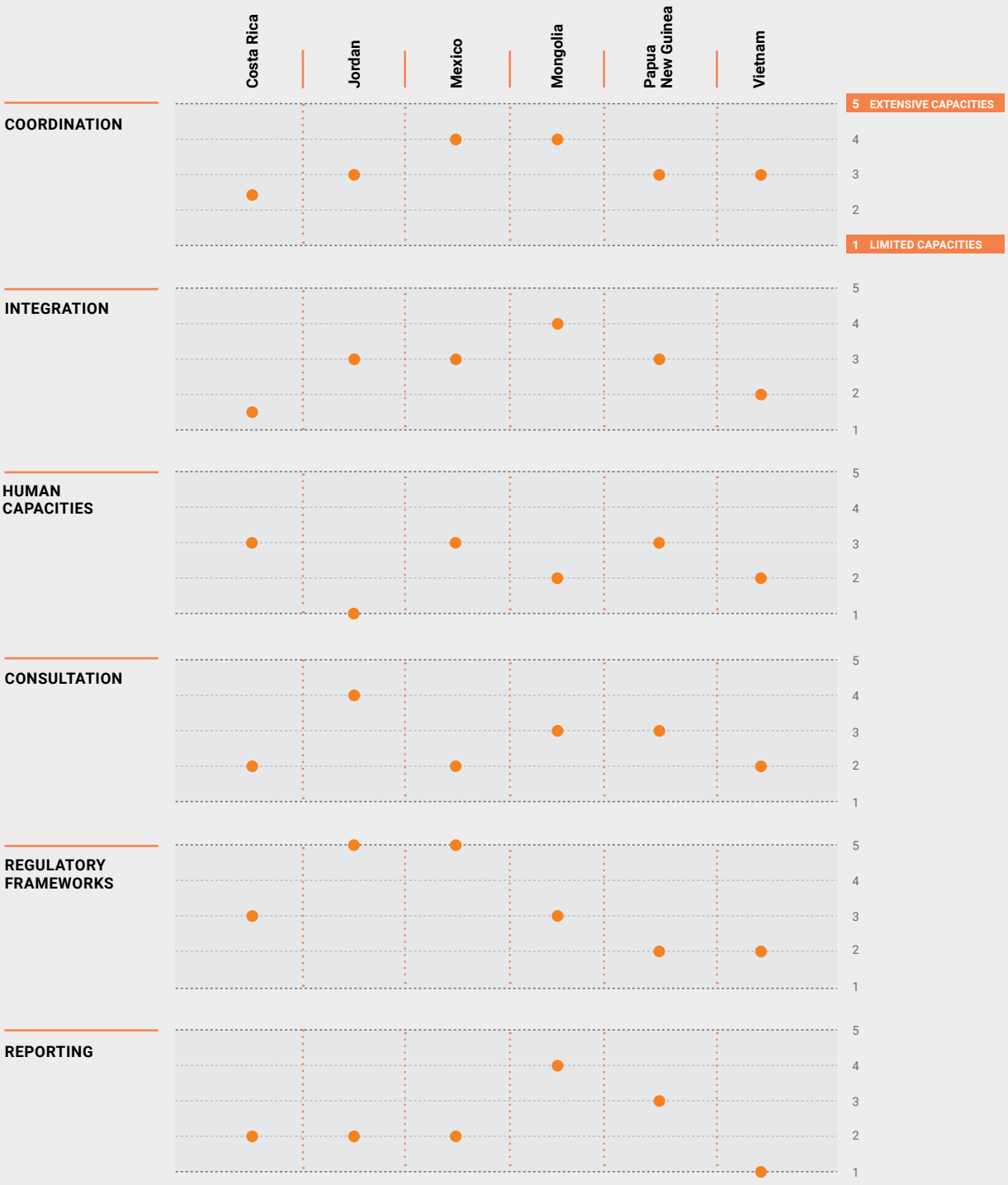
To research some of the issues discussed in this document, the authors interviewed government officials from six developing countries.[5] These individuals, who are responsible for NDC implementation in their respective countries, responded to the survey form included in Annex 2. Among other questions, they were asked to rank the country's level of preparedness concerning the six topics outlined in chapters 2 to 7. Their responses, grouped by topic, are shown in Figure 1.D.

In spite of the small size of the sample, which prevents any kind of generalisation, the results obtained confirm certain well-established notions. Two are worth highlighting, in as much as they are directly relevant to the design of programmes to build institutional capacities:

- No single topic is systematically ranked as "best" or "worst" by all countries. The difference in development levels and in national circumstances is one of the factors that account for this. For example, while two countries give the top score to their perceived capacities concerning reform of their regulatory frameworks, thus signalling that no capacity improvements are deemed necessary, one country gives it the lowest score. This difference is likely to stem from the very different development levels of the countries concerned. However, variations in national circumstances, such as country size, rather than development levels are likely to explain the differences in perceived capacity needs with regard to other issues, notably stakeholder consultations, where one country feels itself to be less in need of capacity than its richer peers. Consistent with experience, this demonstrates that, when it comes to national institutions, capacity development programmes have to be tailor-made to reflect the realities of the beneficiaries of the programmes, because institutions are strongly affected by historical, cultural and economic factors, which precludes the adoption of generic solutions.

- For a given topic, and from one country to another, the same score ("worst", for example) may imply widely disparate capacity levels. Differences in development and, not least, in political agendas account for this. For example, a government that deems its stakeholder engagement capacities to be low may in fact be better off in this regard than a country that has given a high score to this topic. This is because, notwithstanding differences in development levels, a pessimistic assessment of one's capacity may reflect a willingness to improve even further, driven by a political determination to do so. Some small-island developing states, the governments of which have embarked on extensive stakeholder consultation processes, are a case in point. The same phenomenon, whereby political agendas drive significant progress in some areas but not necessarily in others, can be observed in other countries, irrespective of development levels. This is a second reason why generic approaches to capacity development for institutional reform are impractical.

Figure 1.D **LEVEL OF PREPAREDNESS WITH REGARD TO SIX TYPES OF INSTITUTIONAL CAPACITIES**



first area refers to the monitoring and reporting of progress with the implementation of the NDC commitments, including the provision and use of bilateral and multilateral funding (Articles 13.7 to 13.10). The second area refers to independent appraisals of the progress reported, notably through so-called "technical expert reviews" (Article 13.11).

The monitoring and reporting efforts referred to above are expected to rely largely on existing arrangements, notably those that underpin the preparation of reports mandated by the UNFCCC, such as national communications and biennial (update) reports (Article 13.4). In turn, the independent appraisal of progress will necessitate strengthened accountability mechanisms building on current processes, whether they serve domestic audiences (for example, relations with bilateral or multilateral donors) or international audiences (for example, regional peer-review programmes).

1.3 Purpose of the document and intended audience

Implementation of the first NDCs is to start in 2021. Delivering within this time horizon on the requirements outlined in the previous section requires increased institutional capacities on the part of national governments.[6] These capacities relate to six main sets of issues:

- Ability to launch and **coordinate** a whole-of-government process, incorporating contributions from all relevant governmental agencies and non-governmental parties as relevant.

- Capacity to **integrate** NDC priorities into sectoral and cross-sectoral programmes and projects to ensure that the latter do not undermine efforts to achieve the former, or vice versa.

- Resources to **train** relevant government agency staff (and possibly non-government agency staff too) with a view to increasing the technical and managerial skills of these individuals.

- Ability to engage all relevant stakeholders through **consultations** designed to elicit their input, so that this can be taken into consideration, thus increasing buy-in from stakeholders.

- Competence to conduct a **revision of the regulatory framework**, to streamline and complement existing laws and regulations and strengthen related governmental processes and entities.

- Aptitude to monitor progress and **report** on it, making the best use of existing data collection mechanisms and strengthening related capabilities wherever needed.

This document describes the nature of the six sets of issues sketched out above and identifies related areas in which government capacities are weakest. It puts forward recommendations for strengthening these capacities.

This document is aimed at government agencies in charge of NDC implementation. While our key target audience is developing country governments, the principles outlined in the text are of relevance to developed country governments as well, even if they have more capacities than their developing country counterparts.

1.4 Structure of the document and methodology

The document is organised around seven additional chapters and three annexes. Chapters 2 to 7 discuss each of the six topics outlined above. For each topic, needs and common capacities are outlined and recommendations for strengthening these capacities put forward. Chapter 8 presents a number of concluding remarks and suggests likely short- and mid-term challenges associated with institutional capacities for NDC implementation. The list of references in Chapter 8 includes a bibliography on the topic of NDC implementation, with a focus on its institutional aspects.

Key aspects of financing in the context of institutional capacities for NDC implementation are outlined in Annex 1. The assessments of both needs and capacities relied on a review of the literature. Complementing this, information was collected from NDC focal points in a number of national governments. Additional details on the methodology used are provided in Annex 2. Annex 3 consists of tables presenting the data underlying the various graphs included in the document.

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Notes

1 The Agreement also calls on parties to "pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels".

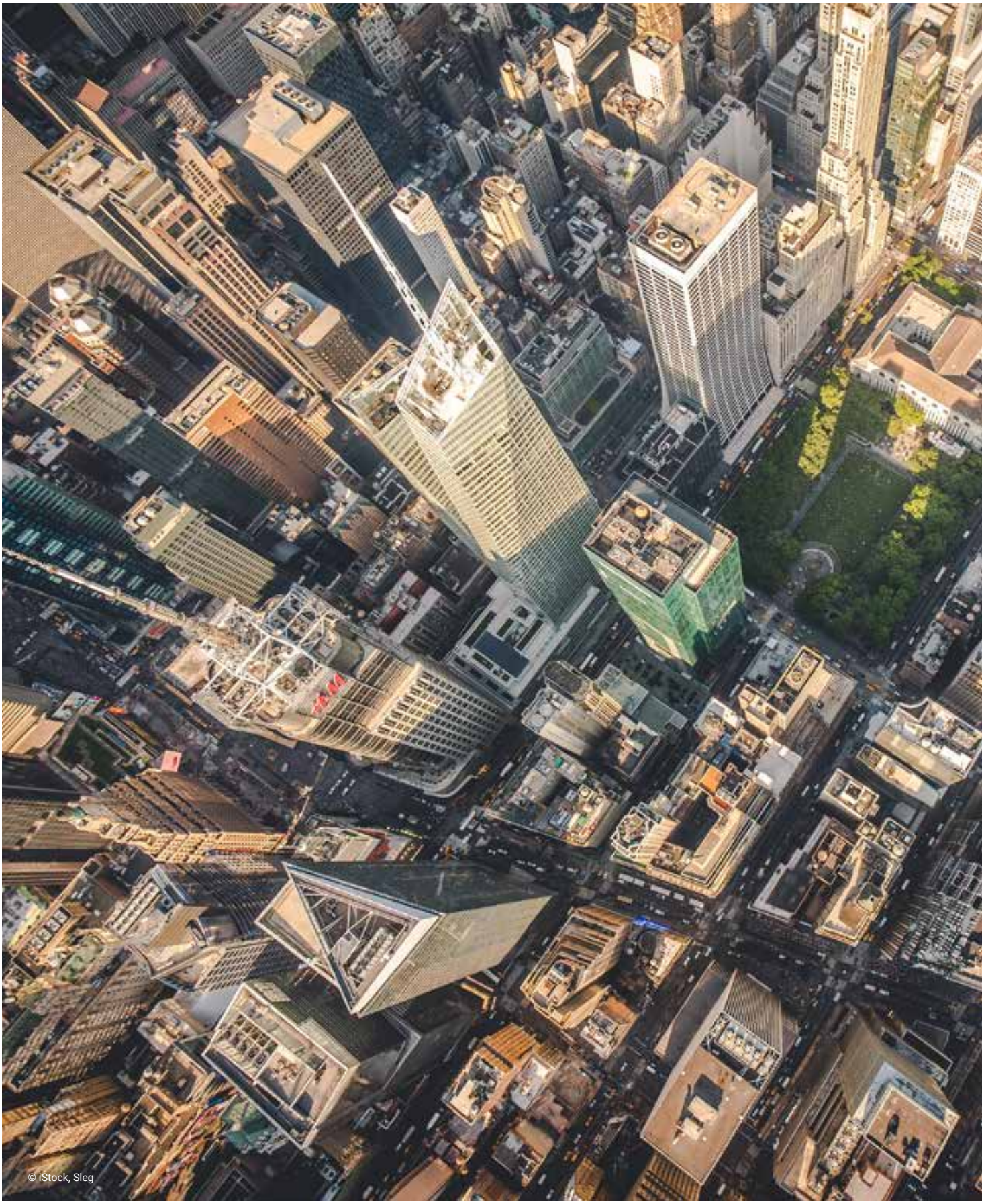
2 As some parties submitted a revised document, their original INDC did not become the NDC – the revised version did.

3 These time horizons refer to the first NDC implementation period, in the sense that the Paris Agreement calls for regular updates of the NDCs, with each round of updates entailing a new implementation period.

4 Ahead of the 2023 stocktake of progress, a so-called facilitative dialogue will take place in November 2018. This dialogue is intended both to assess the collective level of ambition of the NDCs submitted by then and to guide the preparation of revised NDCs with higher levels of ambition.

5 The countries were chosen in order to encompass as wide a range as possible of needs and approaches with regard to climate change management. Even though a number of sub-Saharan African countries were contacted, none provided a detailed enough response to the questionnaire.

6 Indirectly, subnational governments too will be called on to contribute to delivering on the various requirements associated with NDC implementation.



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Chapter 2

Coordination within government

As with the implementation of any policy plan that affects multiple economic sectors and stakeholder groups across different governance levels, the implementation of a Nationally Determined Contribution (NDC) can benefit from the establishment of coordination mechanisms. The appeal of such mechanisms lies in their ability to increase both the efficiency and the effectiveness with which implementation takes place. Coordination mechanisms do so by setting clear roles and responsibilities for all relevant actors and laying out the procedures that should guide these actors in their work.

Based on McNamara (2012), we define coordination as an interaction between peers in which formal links are mobilised because some assistance from others is needed to achieve certain organisational goals. From this point of view, coordination entails less interaction than collaboration, but more than cooperation (Box 2.A).

The public policy literature distinguishes between three approaches to coordination (Peters 2006): coordination through hierarchy, coordination through markets, and coordination through networks. They are described in the following paragraphs.

Coordination through hierarchy. These coordination mechanisms focus on objective- and rule-setting, on the allocation of tasks and responsibilities, and on lines of control. One example of this is the system that usually governs the preparation and updating of greenhouse-gas emission inventories.

Coordination through markets. These coordination mechanisms focus on the creation of incentives to enhance the performance of public actors. Through this system, a government entity performs services that other government entities require, and it does so in competition (potentially, at least) with other government entities or private-sector providers. One example of this is the provision of stakeholder consultation services by a government entity with experience in it and that has a reputation among stakeholders for being neutral and independent.

Box 2.A **DIFFERENCES BETWEEN COOPERATION, COORDINATION AND COLLABORATION**

Drawing on the public policy literature, McNamara (2012) puts forward the following definitions of cooperation and collaboration:

- Cooperation: an interaction between participants with capabilities to accomplish organizational goals but [who] chose to work together, within existing structures and policies, to serve individual interests.
- Collaboration: an interaction between participants who work together to pursue complex goals based on shared interests and a collective responsibility for interconnected tasks which cannot be accomplished individually.

Table 2.A outlines the theoretical differences between the three concepts – cooperation, coordination, and collaboration. In designing a coordination strategy, these differences may be useful to countries in so far as they chart the progression from limited to extensive integration of responsibilities and resources. Stated differently, for some or all of the elements in Table 2.A, countries may want to adopt more integrated approaches progressively, moving from approaches characterised by "cooperation" towards those that are characterised by "coordination", or even "collaboration".

Table 2.A **COMPARING COOPERATION, COORDINATION, AND COLLABORATION**

Element	Cooperation	Coordination	Collaboration
Design	Work within existing organisational structures	Centralised control through hierarchical structures	Shared power arrangements
Formality of the agreement	Informal agreement	Formalised agreement	Informal and formal agreements
Autonomy of the organisation	Fully autonomous (policies to govern the collective arrangement are not developed)	Semi-autonomous (policies to govern the collective arrangement may be developed by higher authorities)	Not autonomous (policies to govern the collective arrangement are developed jointly by participants)
Key personnel	Implementation of the partnership occurs at the lowest levels (leaders are not involved)	Implementation of the partnership relies on higher authority (a boundary spanner may be used to foster linkages)	Implementation of the partnership is based on the participants' abilities to do so (a convener may help bring participants together)
Information sharing	Basic information shared through informal channels	Information is exchanged through formal channels	Open and frequent communications through formal and informal channels
Decision making	Independent decision making	Centralised decision making	Participative decision making
Conflict resolution	The independence of the various parties makes it possible to avoid conflicts	A neutral facilitator may help resolve conflicts	Participants work together to resolve conflicts
Resource allocation	Information is the only commodity exchange	Physical and non-physical resources are exchanged to achieve individual goals	Physical and non-physical resources are pooled in support of collective goals
Systems thinking	System integration does not occur	System integration may occur to better achieve individual goals	System integration does occur to better achieve collective goals
Trust	Trust relations are not required, but may develop	Leaders work closely to create relationships based on trust	Trust between participants is needed to sustain relationships

Source: based on McNamara (2012)

Coordination through networks. These coordination mechanisms focus on the establishment of common knowledge, common values and common strategies between partners. One example of this is the bargaining process that governments facilitate in order to allocate specific emission reduction targets among different actors in the same sector (for example, the various utilities or steelmakers in the country).

In practice, the coordination of NDC implementation is likely to rely on a combination of mechanisms. This is because the above mechanisms are not interchangeable: for a given stakeholder group and for a given aspect of NDC implementation, one coordination mechanism may be more appropriate than either of the others. National capacities and socio-economic conditions as well will influence the choice of coordination mechanism.

2.1 Institutional capacities required with regard to coordination mechanisms

In drawing up their national communications, most countries relied on a coordination structure led by a single governmental entity (UNFCCC 2005). In some cases, a similar arrangement was used for the preparation of the NDC, and the same approach could be used for the NDC implementation process: a single entity is appointed, which has the responsibility for coordinating all aspects of NDC implementation, possibly working with designated teams within line ministries and with relevant non-governmental groups.[1]

The "coordination entity" referred to above has the main function of bringing together, under a single governance structure, all the actors that should be playing a role in NDC implementation.[2] Ultimately, the goal of creating such structure is twofold: support policy planning and increase policy coherence, and reduce transaction costs and enhance synergies. To achieve these goals, the coordinating entity should receive explicit high-level support.

For the sake of simplicity, the "coordination entity" could be established within an existing governmental structure. Typically, this would be the same structure that takes responsibility for engaging governmental and non-governmental partners in related policy processes, such as drawing up a national climate change plan.[3] Where such structures are lacking, it may be worth considering their creation by restructuring relevant teams and reshuffling responsibilities as required.

A coordination entity would be expected to assume most, if not all, of the following responsibilities (UNEP-UNDP 2017):

- Map the institutional climate change-related networks, to identify the key entities and their respective portfolios.
- Identify gaps in institutional capacity related to NDC implementation and draw up a plan for bridging them.
- Review and, if necessary, suggest improvements with regard to the regulatory requirements that are relevant to NDC implementation (Chapter 6).[4]
- Monitor and steer the contributions of the various groups involved in NDC implementation, to ensure that all parties deliver on their respective commitments.
- Ensure that relevant sub-national agencies and stakeholder groups (including local businesses) are engaged in a way that is commensurate with both their capabilities and the needs of the implementation process (Chapter 5).
- Mediate between parties when concerns surface, for example, over a disagreement in terms of responsibilities or a potential conflict of interest.

It is advisable to document and make public the coordination entity's responsibilities and those of the different groups involved in NDC implementation. In addition to responding to basic accountability principles, doing so might help foster a sense of shared objectives among the groups involved, thus easing their work.

As noted above, NDC implementation requires the involvement of sub-national governments and other relevant groups.[5] However, in most instances sub-national actors will only be able to engage meaningfully if they are offered support, typically in the form of funding and trainings. While the coordination entity may not be in a position to make decisions regarding the availability of such types of support, it would be well-placed to map the needs of sub-national actors and bring them to the attention of the relevant decision-makers.

2.2 Coordination-related institutional capacities that are required for NDC implementation, but that countries generally lack

This section presents key gaps in the institutional capacities required to operate coordination mechanisms for NDC implementation. The content in the section is based on a review of the recent literature, notably that on nationally determined contributions and national communications, as well as biennial (update) reports, among other sources. The

Climate change policy coordination in Colombia, Indonesia, and the Maldives

In 2016 Colombia set up a "national climate system", a governance structure that brings together representatives from different parts of government with a view to coordinating activities and ensuring high-level support for both mitigation of and adaptation to climate change. In addition to coordinating the implementation of the NDC, the "national climate system" performs related tasks, such as acting as the coordinating entity for both mitigation and adaptation planning and allocating resources for specific activities in these areas. The "national climate system" is hosted by the Ministry of Environment, is supported by a consultative group and is structured around four thematic areas, namely, sectors, territory, international affairs, and studies and information.

In Indonesia, a national coordination help-desk has been created. The Climate Change National Coordination Team (CCNCT), under the State Ministry of National Development Planning, is the key element of the help desk. The CCNCT includes representatives of each line ministry. The help desk offers technical support to these representatives, as well as to representatives of subnational government agencies.

In the Maldives, the climate change department within the Ministry of Environment and Energy hosts a newly created "NDC coordination unit". The unit is tasked with working on NDC implementation with all other relevant institutions, both governmental and non-governmental. As a first step, it is taking stock of all activities, planned or under way, that contribute to NDC implementation. A "climate change steering committee" will be established to foster high-level support from the various line ministries, from fisheries and agriculture, to tourism, to housing and infrastructure, among others.

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text also draws on the responses to a questionnaire that sought to identify key challenges in this area (Annex 2).

Countries generally recognise the need to establish a coordinating entity. Many have done so through revised institutional arrangements that are more or less explicit, depending on the prominence of NDC implementation in the country and the extent to which these revised arrangements represent a departure from previous institutional arrangements for climate change management.

Most coordination entities are poorly funded and understaffed. These constraints, common though they may be in developing country government agencies, seriously limit the coordination entity's ability to fulfil its role. This is especially worrisome in situations where high-level support is limited, institutions are fragmented, and the role of the coordination entity expands beyond the core duties described in the previous section.

HIGH-LEVEL SUPPORT. In some countries, coordination entities are established without the high-level support they require to conduct their work efficiently and effectively. As a result, government agencies other than those directly involved in climate change management often fail to engage sufficiently in discussions about NDC implementation. In countries where such high-level support was available at the time of setting up the coordination entity, maintaining the support over extended periods can be challenging, especially when there is a change in government. In these cases, the coordination entity's ability to justify its work becomes an indispensable precondition for regaining high-level political backing.

INSTITUTIONAL FRAGMENTATION. Few countries can boast a policy-making tradition that considers the various sectoral priorities in an integrated manner and where plans and strategies strike a satisfactory balance across all sectoral priorities. By initiating (or expanding, in some instances) a dialogue across different parts of government, the implementation of environmental policy has paved the way for efforts to coordinate climate change management across government agencies. Nonetheless, most coordination entities continue to struggle when it comes to overcoming institutional fragmentation, which is characterised by little or no coordination between related policy initiatives.[6] Unlike most issues in environmental policy, in some countries the mandatory nature of the NDC goals is a recurrent issue of disagreement, in that some sectors approach national climate change commitments as non-binding.

SCOPE OF ALLOCATED DUTIES. Managing donor relations, a task that coordination entities are increasingly being called upon to undertake, is one of the aspects that contributes to expanding the entity's role. While this is a relevant task for the coordination entity to conduct, it represents an entirely new and distinct set of responsibilities, which come with their own challenges. In some countries, establishing synergies between monitoring and reporting on NDC implementation and related tasks with regard to the United Nations' Sustainable Development Goals constitutes a further burden. While this task is more closely linked to the entity's core duties, it nonetheless represents extra demands on its staff.

Coordination entities face two additional challenges, which stem from general financial, institutional and human capacity shortcomings that are common in developing country governments. First, in some government agencies staff qualifications are sub-optimal, and the individuals with more experience or better education frequently find better-paid employment options. Secondly, in some countries sectoral government agencies lack the institutional structures that are needed to engage in discussions about NDC implementation, and they rarely prioritise this over other potential uses of their resources.

2.3 Recommendations for bridging gaps in coordination capacity

This section presents broad recommendations for overcoming the capacity gaps outlined above. It is based on guidance documents aimed at supporting the preparation of (intended) nationally determined contributions. The content further draws on the authors' experiences in working with developing country governments to prepare and implement NDCs as well as with related planning and implementation processes.

Its recommendations are as follows:

- **Map out the coordination needs associated with the various NDC priorities.** In most contexts, the tasks of the coordination entity introduced above (Section 2.1) can be divided in two blocks: tasks that are relevant to all sectors and NDC priorities, such as those related to scheduling and budgeting, and tasks that are specific to each individual sector or NDC priority. With regard to the latter, coordination requires a careful mapping of the different issues at stake and the relevant interlocutors in each case.[7] One example of such issues could be the trade-offs associated with increasing the share of renewable sources of energy for electricity generation. In this case, the relevant interlocutors would span industrial and domestic users, and the various actors in the energy sector. Drawing up specific plans, noting the issues to be resolved, the actors to be involved and the

budgetary implications are all pre-conditions for successful and effective coordination.

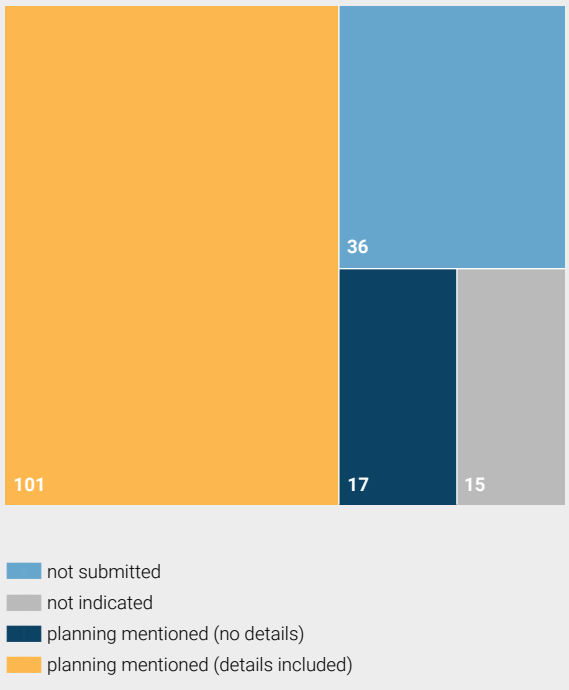
- **Set-up formal working groups.** Experience shows that, when planned and executed in an ad-hoc manner, coordination is neither efficient, nor effective. Formal processes and structures can go a long way toward ensuring successful coordination, especially in the context of cross-cutting issues, such as finance or transparency. The nature and complexity of these formal processes and structures will depend on both the capacities of the coordinating entity and the number of entities to be coordinated. Establishing working groups, the mandates of which are explicit and public, can help in most contexts. More sophisticated approaches, involving purpose-created entities, are only affordable by well-staffed governments and may only be relevant at critical junctures, for example, in support of the process to translate NDC priorities into specific policy actions.

- **Establish protocols to guide the coordination process.** In addition to drawing up and making public a description of the work to be undertaken by the working groups referred to above, it is advisable to complement this description with a series of protocols related to the work of these groups. "Protocols" refers to both the means envisaged to enforce coordination procedures and the mechanisms set up to monitor the performance of all actors (that is, the members of the working groups whose job it is to do the coordinating, as well as the individuals inside and outside of government whose delivery is being coordinated).

- **Secure high-level support for the NDC implementation process.** Increased coordination across government agencies effectively involves a change in the status quo. Some parties may offer resistance to such change for reasons as diverse as inertia, budgetary constraints, or vested interests. Engaging a high-level figure (typically, the head of government) can help break down this resistance due to the credibility and authority that is normally attached to such figures. Similarly, certain non-government parties may not be amenable to engaging in a coordination process led by a government entity that they see as lacking in influence and, in some cases, distant from their day-to-day activities. The presence of known politicians, activists or other prominent figures may help reverse this situation.

- **Develop an NDC implementation strategy ahead of discussions with donors.** To varying degrees, depending on the country, bilateral and multilateral donors are offering financial support for NDC implementation in developing countries. In this context, discussions about the scope of the support offered often take place individually with each donor and at different times, since donors have different disbursement cycles. As far as possible, it is advisable that these discussions are conducted once a clear strategy for NDC implementation has been developed. This makes it possible to target, for each donor, specific areas it could support, thus facilitating the overall planning of financial resources, and thereby easing the coordination burden.

COORDINATION-RELATED ELEMENTS IN THE NDCs



Source: Pauw *et al.* (2016)

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Notes

1 Through these, it is advisable to engage local-level authorities (for instance, through federations of sub-national or local governments).

2 As noted, this approach would require that, in addition to line ministries, all relevant non-governmental and para-governmental groups are also engaged.

3 For instance, in Sri Lanka, the climate change secretariat within the Ministry of Mahaweli Development and Environment has been appointed as the coordinating entity for NDC implementation.

4 This is a complex task, in that it requires a needs assessment of the regulatory framework and entails the preparation of an action plan based on a consultation with all the relevant actors, both within and outside government. The reader is referred to Chapter 6 for additional detail.

5 This is especially necessary in the context of adaptation to climate change, given the potentially large variability in impacts across regions.

6 This can be the case even within the government agency responsible for climate change management in a country, when mitigation and adaptation agendas are not as aligned as they could be.

7 To avoid overlaps and reap potential synergies, it is advisable to take stock of the coordination efforts that government may be undertaking with regard to the implementation of cross-cutting policy initiatives, notably the United Nations' Sustainable Development Goals.

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Chapter 3
Sectoral integration

The integration of climate change concerns into sectoral policies (or "sectoral integration" for short) can be defined as the process through which sectoral policy plans and strategies are revised to achieve a satisfactory trade-off between the priorities driven by sectoral development goals and those that are driven by climate-change management goals.[1] In addition to its horizontal dimension, within equivalent governance levels (notably ministries), sectoral integration processes have a vertical dimension spanning different levels of governance (Ahmad 2009).

Integrating Nationally Determined Contribution (NDC) priorities into sectoral strategies is a pre-condition for successful NDC implementation. This is because, lacking such integration, sectoral strategies may include policy goals that undermine NDC goals. For example, a land-use management plan that contemplates building in flood-prone areas would run counter adaptation efforts directed at reducing vulnerability to flooding episodes.

Calls to integrate climate change priorities into sectoral strategies are nothing new. In fact, NDCs are often based on planning documents such as low carbon development strategies or national adaptation plans of action, the development of which required – and in some instances promoted – sectoral integration.[2] The improvements in institutional capacities that NDC implementation requires can help consolidate this trend.

Integrating climate change priorities into sectoral policies, and evaluating the extent to which this has been done efficiently and effectively, is challenging. The literature on this topic builds on the experiences gained through a parallel concept – environmental policy integration – on which there is more empirical evidence. Drawing on this body of knowledge, five criteria have been put forward to assess (ex-ante) the degree of climate-change policy integration (Mickwitz *et al.* 2009). With few adjustments, the same criteria can be used to evaluate (ex-post) integration efforts. Table 3.A lists the five criteria, accompanied by short sentences clarifying the scope of each one.

Table 3.A **CLIMATE CHANGE POLICY-INTEGRATION CRITERIA**

Criteria	Scope of the criteria
Inclusion	Extent to which sectoral development-driven programmes intend to *achieve* (directly or indirectly) climate change goals.[3]
Consistency	Extent to which contradictions between climate change goals and sectoral development goals are *assessed* and revealed contradictions are *reduced*.
Weighting	Extent to which explicit procedures for determining the importance of climate change goals (relative to the importance of conflicting sectoral development goals) have been *established* and *used* to identify a policy compromise.
Reporting	Extent to which policy strategies require government to *conduct* assessments (ex-ante) and evaluations (ex-post) of the integration of climate change goals into sectoral development-driven programmes.
Resources	Extent to which the required knowledge, staff and funding *are available* to implement all the actions associated with climate change policy integration.

Source: adapted from Mickwitz *et al.* (2009)

3.1 Institutional capacities required with regard to sectoral integration

Implicit in the criteria listed in Table 3.A are the institutional capacities needed to integrate climate change considerations into sectoral development policies. Countries with strong institutional capacities are likely to have analytical procedures and government arrangements in place which, given a greater or lesser degree of adjustment, can accommodate the tasks required to meet those criteria.

In countries where sectoral integration practice is only emerging, the criteria listed in Table 3.A are likely to prove overly ambitious and, for this reason, impractical. In these countries, a simpler set of recommendations for assessing and promoting sectoral integration may be more realistic:

- In the context of regular government budgetary planning, funds to finance the implementation of the various NDC goals are allocated.[4]

- All (sectoral) policies and strategies are screened against key climate change objectives in order to ensure consistency.[5]

- Anchored in the appropriate governmental agency, mechanisms to promote consistency between sectoral and climate change policy formulation are introduced.[6]

Implementation of these recommendations is likely to prove challenging unless senior decision-makers (i) fully support national efforts to manage climate change, and (ii) take concrete action to ensure that climate change and sectoral goals reinforce one another. In other words, sectoral integration requires high-level support within government. Demonstrating the benefits of increased integration (by quantifying – for example, through cost-benefit analysis – the synergistic effects of mutually reinforcing policies) paves the way for securing such high-level support.[7,8]

Actual policy integration takes place at the level of policy plans and strategies. For this reason, the recommendations offered in the previous paragraphs are easier to implement at the level of individual plans and strategies.

A country may choose to develop an all-encompassing NDC implementation plan, or it may choose to implement the NDC through a series of separate, sectoral plans. Both options require that consistency with sectoral development plans be achieved. When the former option is chosen, screening the NDC implementation plan against the national development plan is advisable with a view to identifying potentially conflicting goals and priorities.

Using sectoral working groups to define the approach to NDC implementation can help promote integration between NDC goals and sectoral priorities. Such working groups, which should include experts from line ministries, could undertake some or all of the following tasks:

- Review existing and planned policies, regulations and strategies for the sector concerned.

- Assess the scope for strengthening the ambition of the relevant NDC targets in the areas of mitigation and adaptation.

- Analyse risk factors, notably barriers to implementation, and suggest corrective actions.

Sectoral integration in Zambia

Seeking to reap the benefits associated with sectoral integration, some developing country governments have launched initiatives in this area, often with presidential or prime ministerial backing.[11] Zambia's efforts to integrate adaptation into climate change and development concerns provide a good example.

In January 2011, Zambia adopted its Sixth National Development Plan (SNDP). The Ministry of Finance and National Planning coordinated the preparation of the plan, to which several line ministries contributed.

While providing an integrated, national-level vision, the plan was framed around sectoral strategies. Each sectoral strategy was prepared by a team of specialists, who solicited input from experts in related areas. This helped identify priorities across sectors and helped establish cross-linkages between sectoral strategies. The Ministry of Finance and National Planning led the task of integrating the sectoral strategies into a consolidated strategy, which was complemented with an implementation action plan. Sectoral integration was a prominent issue during the development of the consolidated strategy.

The consolidated strategy highlights a number of options for integrating adaptation to climate change and development concerns. Strategies that build resilience to climate change were necessary in the majority of economic sectors, from energy to agriculture to governance, among others. In light of this, a climate change facilitation unit was established, attached to the Ministry of Environment, to ensure that resilience to climate change was duly considered in all sectoral strategies, as opposed to constituting a strategy of its own, an approach that might hinder the integration process. To this end members of the climate change facilitation unit joined each of the sectoral strategy processes.

Source: adapted from AMCOW (2012)

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- Participate in stakeholder consultations to help frame the approach to NDC implementation.[9]
- Oversee the preparation of sectoral actions plans, possibly including sectoral investment plans.[10]

Not least, a multi-sectoral committee can facilitate the transfer of experiences and good practices among sectors, as well as coordinate approaches concerning cross-cutting issues. More generally, such a committee could help ensure consistency in approach, which would be especially important with regard to the reporting and verification aspects of NDC implementation.

3.2 Sectoral integration-related institutional capacities that are required for NDC implementation, but that countries generally lack

This section presents key gaps in the institutional capacities required to integrate climate change priorities into sectoral policies in support of NDC implementation. The content in the section is based on a review of the recent literature, notably that on nationally determined contributions and national communications, as well as biennial (update) reports, among other sources. The text also draws on the responses to a questionnaire that sought to identify key challenges in this area (Annex 2).

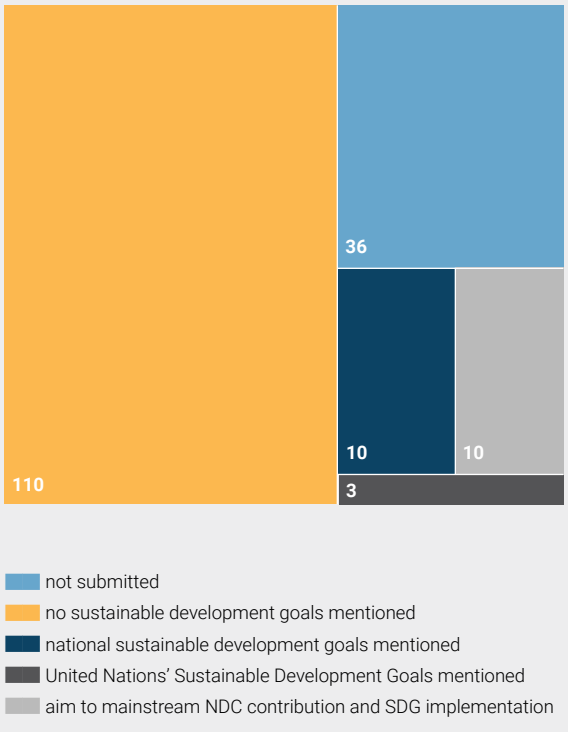
INTEGRATION BUDGET. The integration of climate concerns into sectoral policies and plans involves both a review of those sectoral policies and plans and, possibly, the adoption of alternative measures. In many instances, implementing such alternative measures will require that funds additional to the amount budgeted "pre-integration" are made available. For example, changing the design of an infrastructure project to make it less vulnerable to climate change is likely to require additional funds. The same may be true of moving away from fossil fuels to renewable energy-based electricity generation. Government entities charged with climate change lack the funds needed to finance these kinds of activities. However, the relevant sectoral entity will very often be in a similar position: unable to provide the funds because its budget is fully committed. As a result, and even if changes are introduced in policies and plans, actual integration often fails to occur due to lack of funding.

SECTORAL POLICY SCREENING. Often, sectoral policies are not screened against goals related to climate change management. There are two main reasons for this. First, most governmental climate change offices lack an "integration mandate". As a result, sectoral policy making only takes climate-change considerations into account when the initiative comes from the line ministries.[12] Secondly, governments most often lack the evidence required to analyse the climate change implications of taking certain courses of action.[13] In the area of mitigation, direct effects are easy to analyse, indirect effects less so (for example, the extent to which a land-use management plan might spur increased emissions from transport). In the area of adaptation, even direct effects are poorly understood, because causal relationships (for example, between the same land-use management plan and vulnerability to floods) are much more challenging to establish.

INSTITUTIONAL MECHANISMS. Ideally, integration would begin at the stage of preparing the (I)NDC, at which time an initial screening of potentially conflicting policy priorities could have been undertaken. Unfortunately, at that time the institutional mechanisms required to do so were rarely available, and governments had limited time to prepare the (I)NDC. Integration "post-NDC" is hampered by a number of institutional shortcomings:

- **Dialogue venues.** Staff in line ministries seldom understand the rationale behind the selection of NDC goals or the methods used to calculate specific targets (if any are included

INTEGRATION-RELATED ELEMENTS IN THE NDCs



Source: Pauw *et al.* (2016)

in the NDC). Similarly, staff in climate change ministries are not familiar with the particularities of certain sectors or the policy processes in line ministries, which tend to have long time frames, with infrequent updates in strategies. This disconnect is caused by the lack of a venue through which all relevant government agencies can exchange information on a regular basis.

- **Regulatory obstacles.** Bureaucracy and regulatory uncertainty can discourage integration. Consider, for example, an unclear land tenure policy. Efforts to revise local land-use plans to improve the compromise between climate change-driven concerns and agricultural development goals are less likely to proceed if the key stakeholders fear that the land may be taken away from them. This kind of institutional deficiency, which hampers integration, is also commonplace in many aspects of public policy: to cite but two examples, a cumbersome industrial licensing process or unclear agreements with utilities.

- **Local-level capacities.** Efforts to increase the level of knowledge of sub-national government agencies are rare, mainly due to budgetary constraints and the perception that the resources are better used with national-level government agencies. Yet, local authorities can play a key role in identifying both inconsistencies in policy priorities and potential compromises that reduce or eliminate the extent of the inconsistencies. Notwithstanding the financial aspect of the issue, there is also an institutional aspect to it, in that budget planning processes often neglect sub-national governmental entities.

3.3 Recommendations for bridging gaps in sectoral integration capacity

This section presents broad recommendations for overcoming the capacity gaps outlined above. It is based on guidance documents aimed at supporting the preparation of (intended) nationally determined contributions. The content further draws on the authors' experiences in working with developing country governments to prepare and implement NDCs as well as with related planning and implementation processes.

Its recommendations are as follows:

- **Check whether there are any easy wins.** In most instances, integrating climate change concerns into sectoral policies will be a challenging task. Notwithstanding, in a small number of cases integration may be relatively simple. Looking for such "easy wins" before embarking on more demanding integration efforts is always warranted. Agroforestry provides an example of a sector in which integration requires little effort.[14] Indeed, in many situations agroforestry practices can be adopted in lieu of alternative options that may be less beneficial, even from the point of view of sectoral development. Similar examples could be found in other areas of public policy, notably land-use planning and infrastructure development.

- **Identify early-stage projects that undermine NDC priorities.** In situations in which a sectoral development project runs counter to climate change goals, it matters whether the project is at an early stage of development, or at an advanced stage of implementation. This is because preventing (NDC priorities from being undermined) is always easier than remediating. For this reason, it is advisable to consult with both governmental and non-governmental partners, in order to identify sectoral development projects that run counter to NDC objectives. Further to these consultations, and for the projects to which changes can realistically be introduced, project-specific working groups can be created to determine feasible modifications in the project design with a view to achieving the intended sectoral development goal, while reducing the project's negative impact on efforts to manage climate change.[15]

- **Request that line ministries take climate change goals into account**. With varying degrees of success, government agencies in charge of climate change have sought to persuade their peers in other parts of government to integrate mitigation and adaptation goals into their planning processes. In addition to awareness on the part of senior staff in the line ministries, this entails that human resources are available. In situations where high-level support for climate change can be garnered, it may be possible to institutionalise such a requirement: top-level civil servants could request that line ministries set aside staff time to ensure that policy proposals strengthen NDC priorities rather than undermine them.

- **Establish a tracking system for integration.** In the interests of ensuring continuity and increasing efficiency, it is useful to document all individual efforts to integrate NDC priorities into sectoral policy plans and strategies. In addition to building up a repository of knowledge that can be tapped in the future, implementing such a tracking system makes it easier to evaluate approaches with a view to both assessing the extent to which integration is taking place and improving integration practices. Given that, over time and across sectors, different individuals are likely to engage in integration work, the interest in documenting individual cases appears self-evident.[16]

- **Train selected government actors.** To a greater or lesser extent, depending on the country, government agencies other than those working on climate change management have limited knowledge of greenhouse-gas mitigation or adaptation to a changing climate. To make the case for integration and to streamline actual integration efforts, it is advisable to conduct a campaign across all governmental agencies to raise awareness about NDC implementation and to train selected staff in line ministries and sub-national government agencies.[17] While this kind of effort may be worth doing periodically, it appears warranted to undertake it as early as possible in the process of NDC implementation.

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Notes

1 It is worth noting that, in some cases, NDC priorities may be fully aligned with sectoral priorities, which they may strengthen.

2 A recent survey of 52 countries indicates that the NDC development process itself may have contributed to integrating NDC priorities into sectoral plans (Röser, F., Day, T., and Kurdziel, M. 2016). Furthermore, this process would have consolidated stakeholder consultation practices, among other beneficial impacts.

3 In other words, unintended climate change benefits are not considered evidence of "inclusion".

4 This refers to sectoral budgetary allocations, as opposed to allocations earmarked for climate change management.

5 Integrating this requirement into the planning process itself is the most effective way of achieving this particular goal. "Planning process" refers to the steps taken to identify sectoral policy priorities, as opposed to climate change policy priorities.

6 For example, this could be achieved through an advisory body that facilitates communication between line ministries.

7 This approach enjoys widespread recognition especially in the development of plans of action to reduce emissions of short-lived climate pollutants. Indeed, estimating the costs and benefits of measures to abate the emissions of these pollutants, notably with regard to air quality and its impacts on human health, is commonly done. National-level applications can be found online at: http://www.ccacoalition.org/

8 In some instances, the reverse may be easier, namely conducting a cost-benefit analysis that highlights the wastefulness of implementing policies that undermine their respective goals.

9 In Costa Rica, the government organised a number of sector-specific dialogues, which informed the preparation of detailed sectoral action plans.

10 In Colombia and Kenya, ministries concerned with each of the NDC priority sectors were asked to suggest activities and related implementation options for inclusion in a sectoral road map.

11 For example, in 2013 the Government of Brazil created a "federal climate articulation group" with the primary objective of integrating sectoral and state policies into the National Policy on Climate Change and supporting exchanges of experience between different governmental entities. Similarly, Kenya's President chairs a "national climate change council", which has as one of its missions the provision of guidance in reviewing and harmonising sectoral laws and policies to ensure consistency with climate change management goals.

12 In many countries, line ministries have a limited understanding of climate change. For this reason, staff in these ministries are unlikely to pursue integration efforts on their own initiative.

13 As noted above, air quality and its impacts on human health are a notable exception in a growing number of countries.

14 "Agroforestry" refers to the practice of growing trees and shrubs among crops and on pastureland, which increases farm productivity. In addition to this and other benefits, agroforestry contributes to mitigating emissions of greenhouse gases and to adapting to climate change.

15 It is worth highlighting that no single stakeholder group can determine what constitutes "a good outcome" in terms of integrating climate-change management priorities and development-focused priorities. For this reason, the consultations mentioned need to include all relevant stakeholder groups.

16 In Indonesia, for example, the Ministry of National Development Planning has been tasked to ensure that climate change considerations are systematically integrated into sectoral plans and to monitor efforts to achieve this goal.

17 The importance of including sub-national agencies cannot be stressed enough, in that their endorsement and the local-level knowledge they possess are central to the success of any efforts aimed at re-shaping sectoral development projects, to make them consistent with climate change priorities.

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Chapter 4
Human capacities

Climate change management demands a number of relatively specialised skills. For this reason, assessing the extent to which these are available and bridging the identified gaps are preconditions for the successful implementation of climate change policy.[1] This is the background against which, especially in a developing country context, climate change implementation plans and strategies often envisage the delivery of education, training and public awareness programmes aimed at improving human capacities. This is especially relevant with regard to Nationally Determined Contributions (NDCs), because their implementation will have to be more rapid than usual in order to implement mitigation and adaptation actions of potentially considerable breadth. Building the capacities of those who have to achieve this is likely to be necessary in most countries.

"Human capacities" generally refers to two sets of issues. The first is the availability of a sufficient number of staff, with the relevant skills sets, in the government agencies charged with NDC implementation.[2] While acknowledging that staff availability is a key enabler of NDC implementation, this document pays no further attention to it, in that securing staff is a question that falls outside the scope of the guidance provided in the document. Secondly, human capacities also refer to know-how and the enabling framework that is required to put that know-how into practical use. In this context, "enabling framework" refers to the physical infrastructure, institutional arrangements and financial means needed to support NDC implementation. The remainder of this chapter focuses on the know-how aspect of human capacities, excluding its enabling framework dimension.

Know-how can be provided through a number of complementary avenues:

- **Standard education and training.** National education programmes at the primary, secondary or tertiary levels and a range of professional training programmes are suitable for disseminating generic knowledge about climate change. Exchanges between countries – for example, in the context

of tertiary education programmes – can be used to teach more specialised skills.

- **Specialised capacity building.** Knowledge-transfer arrangements, "train-the-trainer" programmes, and coaching and mentoring schemes can be used to build specialised capacities. These activities typically target a reduced number of individuals and are often adapted to the needs of the recipients.

- **General information materials.** Certain government actions seek to change the behaviour of the population (for example, in the context of a subsidy programme aimed at encouraging the replacement of incandescent light bulbs with more energy-efficient lighting options). In these situations, websites, media broadcasts, publications, conferences, and even workshops, newsletters and social media can be used to disseminate the relevant information.

- **Sharing of experiences.** Know-how that deserves dissemination is not always pre-codified or in the hands of specialists, as is the case with lessons learned from the implementation of a certain policy measure. In these situations, exchanging views, without pretending that any one individual holds the "true" view, can be a useful evaluative exercise. Such exchanges often take the form of issue- or region-specific workshops.

Delivering on the kind of activities outlined in the previous paragraphs requires a certain amount of planning. A number of tools exist to guide such planning. Because of its simplicity, the so-called ADDIE model is among the most popular such tools (Peterson 2003).

The ADDIE model is a simple five-step framework, each step of which corresponds to a key "task" in the development of a know-how delivery programme. Table 4.A outlines the scope of the various steps in the ADDIE model.

4.1 Institutional capacities required with regard to know-how

NDC implementation requires know-how in a range of different areas (CDKN 2016):

- institutional capacity for governance and coordination;

- technical capacity to carry out modelling and evaluation, including sectoral expertise;

- relational capacity to build partnerships and invest time in processes;

- strategic capacity for systemic policy design and implementation.

Table 4.A **SCOPE OF THE STEPS IN THE ADDIE MODEL**

Phase	Scope
Analyse	Determine the objective of the learning programme, taking into account the know-how required to implement the policy or action of interest, and the skills set of the participants in the learning programme. Participants could include representatives from all stakeholder groups involved in the implementation of the policy or action of interest.
Design	Establish a feasible approach for delivering the required know-how, with due consideration of all limiting factors, notably funding. This mainly entails defining learning objectives, choosing assessment instruments, identifying learning media and planning lesson schedules.
Development	Prepare the specific content of the learning delivery programme and obtain the tools needed to deliver it. Testing is conducted at this stage. This is especially relevant with regard to computer-based tools, notably e-learning programmes.
Implementation	Develop procedures for capacitating both facilitators and learners. Facilitators need to be familiarised with the curriculum and its planned delivery methods. Learners should be registered and introduced to all the envisaged learning tools, from books to software.
Evaluation[3]	Assess performance against the intended objectives of the learning delivery programme. This involves the various steps of the programme itself and the use that is made of the learning once the programme has already been delivered.

Uganda's national climate change learning strategy

Acknowledging that "the transition to […] low-emissions and climate-resilient development requires unprecedented levels of awareness, knowledge and skills of individuals", in 2013 the government of Uganda launched a national climate change learning strategy. The strategy is made up of eight key elements:

- Build capacity and strengthen the UNFCCC National Focal Point for Uganda.
- Strengthen the Department of Meteorology.
- Build the capacity of the main economic sectors, notably agriculture, water and energy.
- Support ongoing actions to integrate climate change learning into curricula.
- Monetise climate change impacts individually for the main economic sectors.
- Institutionalise climate change learning through existing and new avenues.
- Assess the impacts of climate change learning activities.
- Harmonize climate change learning across institutions and governance levels.

To inform the content of the strategy, the government of Uganda undertook three preparatory activities. First, a survey was conducted in order to identify gaps in capacity.[6] Secondly, a qualitative assessment was made to determine the specific skills and tools needed. Thirdly, national- and district-level stakeholder groups were interviewed in order to understand the key enablers of, and barriers to, human capacity development.

The Ministry of Water and Environment, through its Climate Change Unit, coordinates implementation of the strategy. Given the cross-sectoral and multi-stakeholder nature of the actions included in the strategy, an oversight body was created, the membership of which spans the different stakeholder groups affected by the strategy.

Source: MWE (2013)

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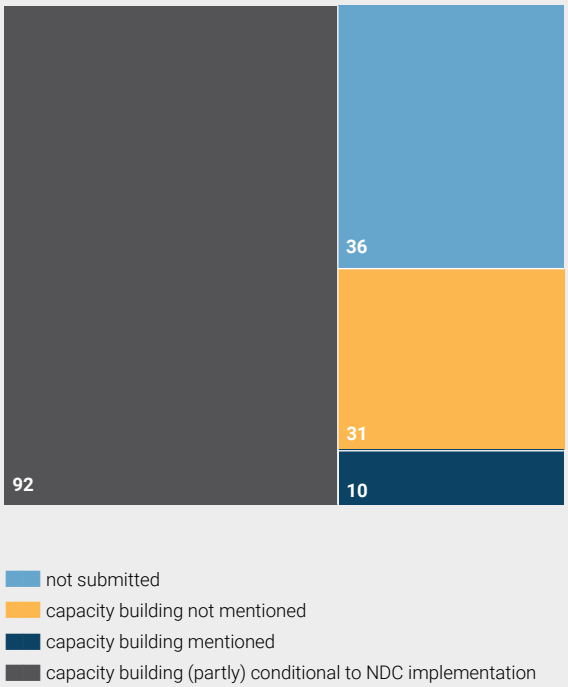
The list above highlights that the improvement of know-how is relevant for all types of actors, from government officers working on climate change management, to policy officers in line ministries, to local authorities, to interest groups and civil society. Nonetheless, different actors will have different needs with regard to improving the know-how required to support NDC implementation. Similarly, different actors will be able to play different roles in the context of know-how delivery programmes.[4]

Rationalising the improvement of know-how across all types of actors is best done through issue-specific learning programmes. The NDC coordination entity would be well-placed to oversee the development of a plan for delivering such learning programmes.[5] Actual know-how improvement programmes can be developed and delivered as part of related national education programmes, or they can be integrated into bilateral or multilateral funding programmes, especially those focused on NDC implementation.

HUMAN CAPACITY-RELATED ELEMENTS IN THE NDCs



Source: Pauw *et al.* (2016)

4.2 Know-how–related institutional capacities required for NDC implementation, but that countries generally lack

This section presents key gaps in the institutional capacities required to strengthen human capacities in support of NDC implementation. The content in the section is based on a review of the recent literature, notably that on nationally determined contributions and national communications, as well as biennial (update) reports, among other sources. The text also draws on the responses to a questionnaire that sought to identify key challenges in this area (Annex 2).

GOVERNANCE AND COORDINATION. In some countries, the human and financial capacities needed to organise know-how development programmes are available. However, the institutional capacities required to set up such programmes are missing, due to governance and other institutional shortcomings. Central among these shortcomings is the lack of appropriate mandates. More generally, in most countries governance and coordination problems emerge in the context of human capacity development initiatives that involve sub-national government agencies. At this administrative level, finance often becomes an obstacle to creating and implementing know-how development programmes.[7]

MODELLING AND EVALUATION. Most governments face three related challenges with regard to the capacities required in the context of modelling and evaluation efforts:

- Know-how is needed to define the technical aspects of improved data collection programmes and, crucially, to set up the institutional mechanisms required to ensure data confidentiality, while securing access to it by all relevant parties. This need is most acute with regard to adaptation to climate change, where experience is still limited and the needs span a wide range of types of information.

- Know-how is also required to raise funds for modelling and evaluation tasks. This requires technical knowledge, coupled with an understanding of donor priorities and a sense of what may represent an ambitious but still feasible plan. Not least, raising funds for modelling and evaluation tasks often entails that these tasks be embedded in a related, larger programme, in that bilateral and multilateral donors often are reluctant to fund data management efforts alone.[8]

- In the area of climate change mitigation, securing the know-how needed to define emission factors remains a challenge. This is partly because (i) a large number of emission factors are typically required, and (ii) the scope for continuously improving most emission factors is large.

PARTNERSHIPS AND PROCESSES. In most countries, government officials working in climate change departments find it difficult to engage with their counterparts in other areas of government, even when coordination and collaboration mandates have been introduced. To reverse this situation, know-how is needed with regard to both technical knowledge at the level of individual economic sectors and consensus-building and negotiating skills. Efforts to build these skills should go hand in hand with the introduction of incentives that help governments keep skilled staff, who may otherwise seek more attractive employment offers elsewhere.

POLICY DESIGN AND IMPLEMENTATION. In the poorest countries, governments find it challenging to set up basic know-how development programmes, which creates frustration and disengagement among stakeholders. In other countries, staff turnover associated with changes in government creates a different but parallel situation, in that a number of institutional processes, notably those related to human capacities, need to be re-created. In all cases, these situations hamper the government's ability to design and implement the policies and actions required to further NDC goals.

4.3 Recommendations for bridging gaps in know-how capacity

This section presents broad recommendations for overcoming the capacity gaps outlined above. It is based on guidance documents aimed at supporting the preparation of (intended) nationally determined contributions. The content further draws on the authors' experiences in working with developing country governments to prepare and implement NDCs as well as with related planning and implementation processes.

Its recommendations are as follows:

- **Integrate learning into the NDC implementation process.** In most countries, NDC implementation is likely to be structured around a set of distinct steps. Whether or not these steps are brought together in a formal NDC implementation plan, it is advisable to assess the learning needs associated with each step. Based on this assessment, and taking into account the constraints associated with resource limitations and implementation calendars, it is possible to select the steps for which developing a learning component may be feasible. To underline the importance of learning programmes and prevent a situation in which they are perceived as merely accessory elements to the overall NDC implementation process, the explicit integration of all selected learning components in the NDC implementation work-plan appears warranted.

- **Centralise learning activities in one single entity.** NDC implementation is but one process, the implementation of which may require that human capacities are built: other climate change policy processes, domestic or international in focus, may have additional, slightly different requirements in terms of know-how development. Therefore, it is advisable to strengthen or establish, as relevant, the relevant entity that can be tasked to manage all needs with regard to learning for climate change policy implementation. As part of a broader mandate encompassing all aspects of government activity in the area of climate change, such an entity would take charge of assessing gaps in know-how in the context of NDC implementation, identifying priority areas, and organising the preparation and delivery of learning programmes in those areas. To the extent that consultations with all relevant stakeholders take place, such a centralised approach has the potential to be more cost-effective in the long run compared to an ad-hoc arrangement.

- **Introduce incentives to avoid high staff turnover.** Increasing the know-how of government staff involves a sizeable investment, which is fully recovered only if staff turnover is low. Experience shows that, to achieve a low staff turnover, government agencies have to offer a stable work environment, coupled with professional incentives, notably competitive salaries. Because higher salaries are likely to be on offer elsewhere, government agencies may want to offset the (potentially) lower wages they can offer with attractive professional development programmes, including networking opportunities and flexible working conditions. Setting up and implementing such programmes inevitably entails costs, which would have to be funded through the agency's core budget allocated to human resources management.[9]

- **Consider the needs of all actors.** In each country, a relatively small number of individuals attached to different central government agencies will be strongly involved in NDC implementation. Nonetheless, they will work with a much larger number of people, notably local government staff, industry stakeholders, researchers and members of civil-society organisations, all of whom will play a critical role in NDC implementation, although spending comparatively less time and effort on it in most cases. While learning programmes aimed to strengthen NDC implementation are likely to focus on central government agency staff, it is advisable to consider the needs of the broader set of stakeholders. Options to do so range from strengthening existing national curricula and training systems to organising generic awareness-raising and education campaigns. In all instances, these efforts would strongly benefit from taking

into account the various gender dimensions of the issues on which capacities need to be built (Box 4.A).

Box 4.A. **BUILDING BLOCKS FOR GENDER-RESPONSIVE NDCs**

In early 2016, the United Nations Development Programme conducted a review of all Intended Nationally Determined Contributions (INDCs), to assess the extent to which the INDCs reflected gender-equality concerns. Drawing on this review, a review of national-level planning documents for climate change management, and interviews with practitioners in five countries, a set of recommendations were prepared aimed at helping national governments integrate gender-equality considerations into NDC implementation plans. Drawing on these recommendations, the following paragraphs provide suggestions as to how such integration could be achieved.

- Through sectoral analyses and multi-stakeholder workshops and consultations, and using gender-disaggregated data, assess the extent to which gender equality features in NDC implementation plans.

- Introduce relevant provisions in institutional frameworks and coordination mechanisms, to ensure that NDC implementation modalities are consistent with gender-equality concerns and to raise awareness about those concerns.

- Revise related planning documents, such as low-emission development strategies or national adaptation programmes of action, to ensure that they reflect appropriately gender-equality concerns.

- Expand the scope of the monitoring systems used to track progress with NDC implementation, to assess the extent to which the above mentioned provisions are successful at integrating gender-equality concerns.

Source: adapted from UNDP (2016)

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Notes

1 Article 6 of the United Nations Framework Convention on Climate Change calls on all Parties to the Convention to promote education, training and public awareness, both domestically and internationally. These concepts are presented in broad terms, to comprise activities ranging from public access to information, to public participation and training.

2 It is relatively common for government agencies to employ individuals on a consultancy contract, as opposed to a staff contract with the government. In some instances, bilateral or multilateral agencies lend staff to the government agency for a certain period. Clearly, building the capacities of government staff, as opposed to taking staff on loan, is preferable, in that it contributes to building the capacity of the institution. Nonetheless, for the purposes of this publication, we refer to government agency staff regardless of contractual arrangements.

3 The so-called Kirkpatrick Evaluation Model is a popular method used to evaluate learning programmes. The model is structured around four activities: collecting feedback from learners, assessing the uptake of knowledge, determining changes in behaviour and capacity, and measuring the learners' performance. Additional information on the model is available online: http://www.kirkpatrickpartners.com/

4 For example, while decision-makers in a water utility may need an understanding of broad climate change priorities at the national level, they are well-placed to support the development of training materials in areas such as resilient agriculture or flood management.

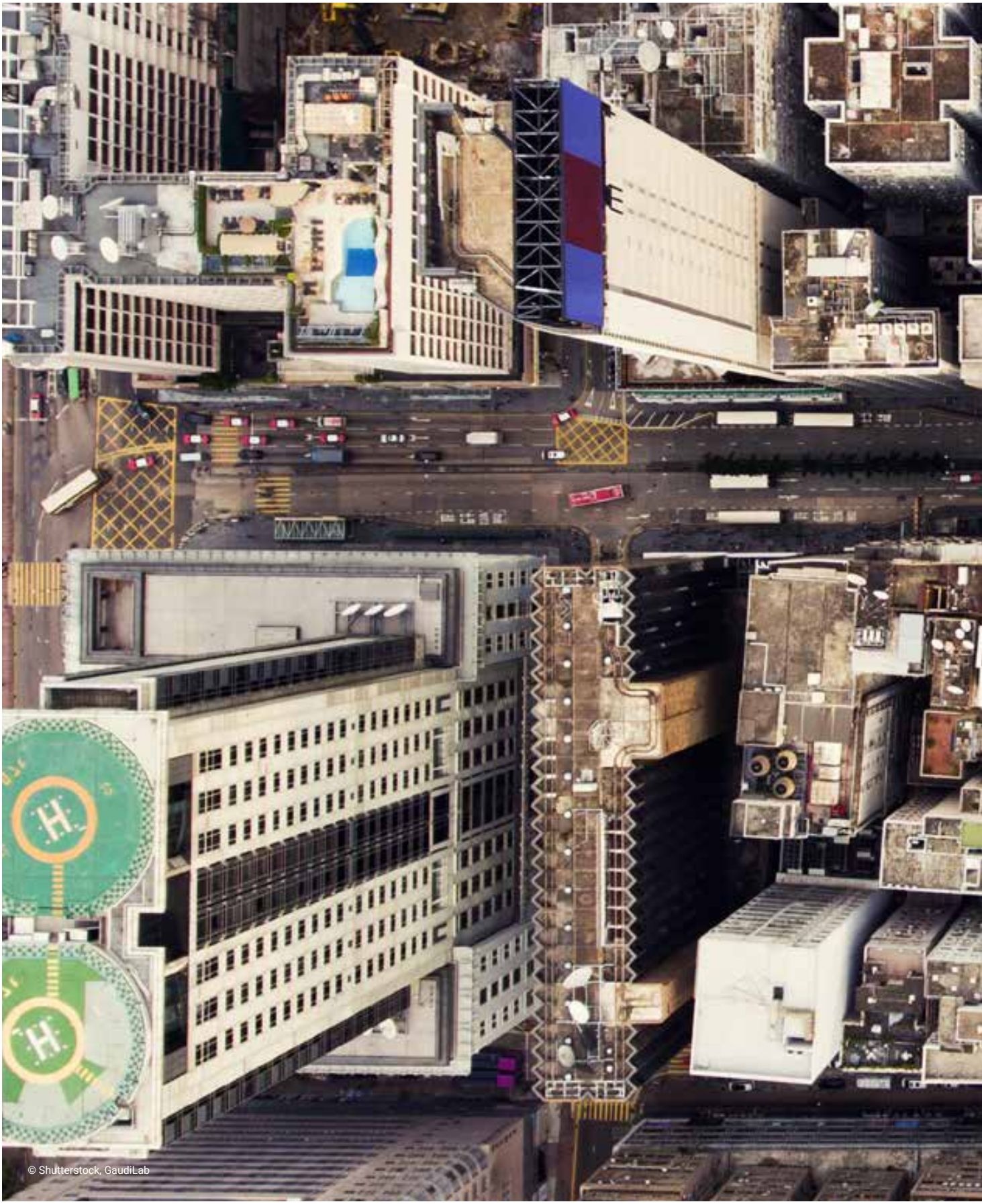
5 This plan could be attached to the broader NDC implementation plan, if one is developed.

6 The survey focused on the main four ecological zones in the country, as identified in Uganda's national adaptation programme of action.

7 While these issues are of special relevance at the subnational level, they are by no means negligible at the national level. Indeed, many developing country governments depend on donors to deliver know-how development programmes, in particular with regard to specialised issues.

8 In some countries, government agencies charge for using the data they collect, even when the request comes from another government agency. Including these costs in projects funded by bilateral and multilateral agencies is not always possible.

9 Ultimately, the case for providing such incentives has to be made with finance ministries, their approval to set aside funds for professional development being needed in most countries.



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Chapter 5
Stakeholder consultation

Determining how to implement a Nationally Determined Contribution (NDC) is a process that entails choices, few of which are intrinsically right or wrong. Experience from all policy areas demonstrates that an inclusive and transparent consultation helps characterise such choices, and helps identify the implementation modalities that will be most beneficial to society as a whole. Not least, it reduces risks fostered by asymmetrical inputs and influence. Ultimately, stakeholder consultation can help ensure that the NDC implementation process serves the needs of its intended beneficiaries, who, in turn, will be more likely to support that process (Box 5.A).

In the lead up to the preparation of their NDCs, governments have emphasised the importance of participatory approaches and have consulted with a range of government and non-government actors. Capacity constraints and consultation traditions have determined to a large extent the type and breadth of the consultations. For example, stakeholder consultation as part of the process to prepare the NDC was prominent in Costa Rica, Mexico and Sri Lanka, to name but three countries in which such consultations played a central role in the NDC development process.

We define a stakeholder as any individual or group that can affect, or is affected by, a public policy programme. A stakeholder is also any individual or group that can help define the public policy programme (UNEP 2005). Identification of stakeholders is a potentially complex effort, which can benefit from a comprehensive stakeholder mapping aimed to reach beyond the groups traditionally consulted with a view to ensuring that the broadest possible range of opinions can be taken into consideration.

Box 5.A **THE BENEFITS OF STAKEHOLDER CONSULTATION**

In addition to being a fundamental prerequisite of democratic policy-making, stakeholder engagement is beneficial on several accounts. First, stakeholder consultation helps reach consensus around the approach chosen, thus fostering ownership of, and support for, that approach. This increases the likelihood that the measures implemented will achieve their goals. Secondly, stakeholder consultation gives legitimacy to the choice that the consultation is intended to inform.[1] In doing so, it gives that approach a credibility that it would otherwise lack. Thirdly, stakeholder consultation provides a mechanism through which information that is needed to define the NDC implementation process can be collected. This is especially relevant in the case of location-specific measures, such as those related to adaptation to climate change. Fourthly, stakeholder consultation provides much-needed checks and balances in the NDC implementation process. These are especially critical in evaluating performance and compiling lessons learned.

To realise these benefits, the stakeholder engagement process has to reflect two fundamental realities: different stakeholders will have different levels of awareness and knowledge, and they will have different types of capability in terms of both experience and availability. For example, industry stakeholders, organised through industry federations, are likely to have the capacities to engage and experience of doing so, while poorer, non-organised groups such as low-income families will be in the opposite situation. If consultation is to be meaningful, the institution in charge of NDC implementation has to reflect these differences in its stakeholder engagement processes. In practice, this means providing support to the groups whose capacities are more limited.[2]

5.1 Institutional capacities required with regard to stakeholder consultation

For stakeholder consultation to be effective, stakeholders need to understand the rationale for the NDC priorities, and the trade-offs associated with them. This entails dedicated efforts, in the form of communication campaigns, and awareness-raising activities. These are non-trivial undertakings, which require both time and resources from the institutions organising them.

Stakeholder consultation encompasses three sets of activities: identifying stakeholders (a task that is often referred to as "stakeholder mapping"), eliciting input from stakeholders, and determining trade-offs. The weight given to each of these types of activity will depend on the nature of the consultation. For example, identifying stakeholders may be a relatively trivial issue with regard to a matter related to adaptation to climate change in a well-defined sector such as fisheries, because the actors are known and possibly organised through a trade association. Conversely, a consultation on choices with regard to a country's energy mix affects such a broad range of stakeholders that identifying a representative set becomes challenging.

A number of methods exist to conduct the three sets of activities listed above. The choice of method depends on straightforward considerations such as familiarity with the underlying techniques, the resources – not least financial – available and cultural preferences. The following paragraphs sketch the main such methods.[3]

STAKEHOLDER IDENTIFICATION. Building on the experiences gained through related policy processes, the institution in charge of NDC implementation will in most cases be able to identify a core group of stakeholders – typically, those who have the channels required to register their preferences. Among other methods, focus groups, surveys and interviews can be used to expand on that core stakeholder group. Over the years, a number of innovative techniques (for example, so-called radical transactiveness) have been developed to ensure that even "fringe" stakeholders can be identified (Reed *et al*. 2009).

INPUT ELICITATION. Focus groups (see above) can also be used to determine the range of views that different stakeholders have. This technique is especially suitable for situations involving a well-defined, present-day problem. While NDC implementation may face this kind of problem, in many instances stakeholder consultations aimed at supporting NDC implementation will relate to multi-dimensional problems that extend several years or decades into the future. In these cases, techniques such as "scenario analysis", "visioning" and "policy exercises" will be more appropriate (van Asselt *et al*. 2001).

TRADE-OFFS ASSESSMENT. The goal of stakeholder engagement processes has shifted from reaching a consensus to determining trade-offs. This evolution reflects the recognition that consensus is often an elusive goal, given the fundamental changes that moving to a low-carbon, resilient society entails.[4] Some of the techniques used to determine trade-offs seek to gather stakeholder input that directly informs computer-based scenario development processes. So-called "participatory modelling" is a prominent example of these. Other techniques, such as "participatory planning", seek to break down power, gender and other economic and cultural barriers to establish a level playing field for all stakeholders (van Asselt *et al*. 2001).[5]

In most cases, a designated entity within government will be in charge of coordinating NDC implementation (Section 2.1). This entity is likely to be well placed to organise the stakeholder consultation process that is deemed most relevant to support NDC implementation. While resources, notably the budget and staff capacities available, will determine the overall scope of the consultation process, it is advisable to consider both national needs and the needs of sub-national governments. This is all the more important in large countries, where sub-national administrations, such as states, provinces or regions, may need to run independent stakeholder consultation processes in support of their own specific planning processes.

To conclude, it is worth highlighting three aspects that are common to all stakeholder consultations, whether they are more or less ambitious, and irrespective of the topics on which they focus:

- Building trust among stakeholders is perhaps the main long-term benefit of stakeholder consultation. Building trust requires a certain amount of time and dedication. For this reason, stakeholder engagement can be costly in terms of both staff time and financial investments. Any efforts aimed at consulting stakeholders should anticipate these costs.

- Stakeholder engagement benefits from all parties (i) having a good understanding of the issues at stake, (ii) being able to express their respective views openly, and (iii) showing a willingness to reach a consensus that reflects the general interest (Accountability 2015). Starting a stakeholder consultation process where these preconditions cannot be met is arguably a bad use of resources.

- A poorly conducted stakeholder consultation can undermine present and even future attempts to engage stakeholders. From the point of view of the process associated with it, a consultation often requires a neutral convener, an entity or an individual who is perceived as independent. From the point of view of their content, it is important that the outcomes of consultations are followed through, even when those outcomes challenge established balances of power.

5.2 Stakeholder consultation-related institutional capacities that are required for NDC implementation, but that countries generally lack

This section presents key gaps in the institutional capacities required to engage stakeholders in support of NDC implementation. The content in the section is based on a review of the recent literature, notably that on nationally determined contributions and national communications, as well as biennial (update) reports, among other sources. The text also draws on the responses to a questionnaire that sought to identify key challenges in this area (Annex 2).

STAKEHOLDER IDENTIFICATION. Countries generally face difficulties in identifying and engaging the right stakeholders. While stakeholders with an interest in climate change are often eager to participate in consultations, other stakeholder groups, notably civil society, are less so. Deficient institutional structures are one part of the problem, especially with regard to conducting consultations at the sub-national level, where the number, level of knowledge and availability of stakeholders are in some cases limited.[6] Identifying and engaging private-sector stakeholders, including financial institutions, poses similar challenges, notably when consultations concern areas outside a company's direct commercial interests. Since selecting the wrong stakeholders leads to misleading consultation outcomes, governments that face difficulties in identifying and engaging stakeholders opt in many instances for limiting stakeholder consultation efforts, even though this is detrimental to the NDC implementation process.

INPUT ELICITATION. In most countries, the tradition of stakeholder consultation is weak and, as a result, governments lack specific mandates. Mandates often catalyse the preparation of guidelines on, and an increase in the number and type of, stakeholder consultations. For this reason, a lack of mandates often goes hand in hand with limited expertise in convening stakeholders and eliciting input from them. Notwithstanding, some countries note that stakeholders often lack the required knowledge, which makes consultations challenging, irrespective of the experience that government officials may have in eliciting stakeholder opinions. In a similar vein, some countries

Examples of stakeholder engagement for purposes of NDC preparation and implementation

A number of national governments have convened stakeholder consultations in support of the NDC preparation process and to inform the development of an NDC implementation plan. The following paragraphs provide examples of these.

- As part of the NDC development process, the government of Chile collected stakeholder input through seven regional consultation processes and one additional consultation in the capital. Additional input was collected through a dedicated web page. The overall process took just over four months and gathered input on all sectors, with special emphasis on finance, adaptation and forestry.

- In the Gambia, and as part of the process to prepare the country's NDC, the government organised eight regional stakeholder consultations, one in each of the country' main regions. The goal of the consultations was twofold: raising awareness and collecting input. Rural communities, which are worst affected by climate change, were among those that provided the most input in the form of mitigation and adaptation alternatives to current practices.

- In Ghana, the media are used to increase the awareness of the public about climate change. Radio and television stations are routinely invited to stakeholder dialogues, thus making the debate accessible to a much broader audience. Some of the consultations related to the NDC development process took place during prime time media and accepted calls from the public, who were thus allowed to contribute to the discussions.

- In Nigeria, a range of national- and subnational-level stakeholder groups have been consulted as part of the process of preparing the country's NDC. Engagement of rural communities was prioritised, because these communities are particularly affected by climate change. Through the national media, information was disseminated, awareness raised and debate promoted.

- In mid-July 2017, the Government of the Philippines convened a wide range of stakeholder groups to consult them on the specific targets that should be included in the country's NDC implementation plan. The consultation, which was organised along sectoral lines, also sought to identify priority areas in terms of funding.

- In mid-August 2017, the Government of Mali conducted the first of a series of stakeholder consultations aimed at drawing up an NDC implementation plan. Both governmental and non-governmental stakeholders participated in the consultation.


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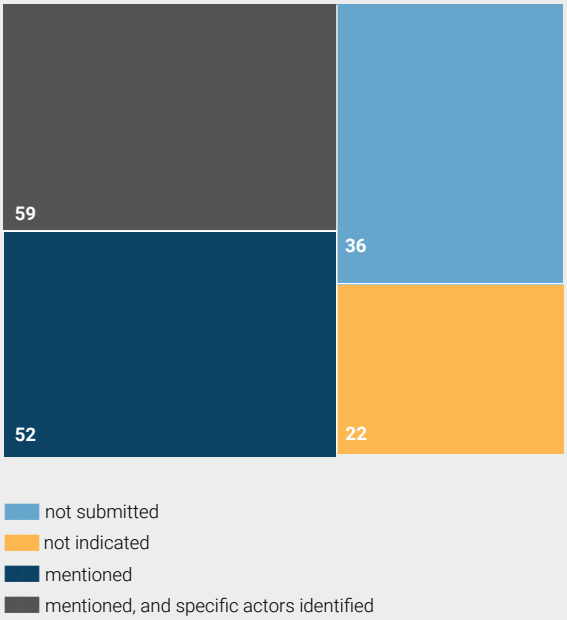
Source: MWE (2013)

also note that using the same stakeholders for many consultations results in lower quality input, especially from stakeholder groups that, during previous consultations, felt that their interests were not properly taken into account. In general, mandates and guidelines are lacking with regard to coordinating stakeholders, eliciting input from them and reporting on the overall process.

TRADE-OFFS ASSESSMENT. Administering stakeholder input with a view to identifying trade-offs is the weakest aspect of stakeholder consultation in the vast majority of countries. Power imbalances, whereby one individual or group dominates the process, play a big part in the problem. Both inside and outside government, the most influential stakeholder group is typically that which is closest to decisions regarding the allocation of financial resources. The larger the imbalance, the less other stakeholders will engage. A second, related problem concerns actual follow-up on the process: in some instances, even when difficult trade-offs have been identified and difficult decisions have been made, these decisions are not followed through. This, too, discourages stakeholders from participating in future consultations.

STAKEHOLDER CONSULTATION-RELATED ELEMENTS IN THE NDCs



Source: Pauw *et al.* (2016)

5.3 Recommendations for bridging gaps in stakeholder consultation capacity

This section presents broad recommendations for overcoming the capacity gaps outlined above. It is based on guidance documents aimed at supporting the preparation of (intended) nationally determined contributions. The content further draws on the authors' experiences in working with developing country governments to prepare and implement NDCs as well as with related planning and implementation processes.

Its recommendations are as follows:

- **Introduce a consultation mandate and develop consultation protocols.** To overcome legitimacy concerns and institutionalise stakeholder engagement, in most cases it is useful to formalise the practice of stakeholder consultation. This typically means (i) centralising consultations in one governmental entity, to which a clear mandate is given; (ii) developing simple and clear guidelines to steer the engagement process from coordination to actual consultation to documentation of the process and its outputs; and (iii) ensuring that the input received is properly considered, and informing stakeholders about how it has been used. It is worth noting that centralisation does not exclude delegation, especially in large countries, where the government entity in charge of consultation could play a coordinating role, leaving the actual consultation process to relevant sub-national entities.

- **Strive for fair and inclusive consultation processes.** The more contentious the issue on which stakeholders are consulted, the more challenging it is to identify trade-offs and reach an agreement that none of the stakeholders consulted feels left out of. It follows that consultation should include not only the groups that stand to benefit from the change in the status quo, but also those that stand to lose out. Exchanges between groups need careful management in order to prevent sterile debates and incentivise constructive dialogue. This may require a professional facilitator who is perceived as neutral to the topic and credible. It may also require impartial analysis, prepared in advance of the consultation, and the ability to implement specialised engagement protocols, such as those described earlier in this chapter (Section 5.2).

- **Conduct sub-national stakeholder dialogues.** When a decision has been made to expand wind energy power, for example, selecting the best site(s) among all those that have good technical and economic potential is not

a decision that can be taken in a centralised manner. Similarly, the specifics of a decision to introduce a new variety of a crop that is more resistant to droughts, for example, need to be discussed with the stakeholders directly affected. These examples highlight the need to conduct sub-national stakeholder consultations involving all relevant actors, including local authorities, affected communities and the private sector.[7]

- **Ensure that stakeholder consultations include financial and insurance institutions.** It is widely acknowledged that public-sector financing will be insufficient to fund NDC implementation fully. Against this background, the need to mobilise private-sector actors, including financial and insurance institutions, becomes self-evident. Identifying the investment opportunity for each NDC priority (where relevant) is a precondition for finance and insurance institutions to engage in stakeholder consultations (Annex 1).

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Notes

1 In the context of this document, "choice" refers to the approach to NDC implementation that is selected among the several approaches possible.

2 In situations where the rights of indigenous peoples are at stake, stakeholder consultation typically proceeds in accordance with the principles of the so-called free prior and informed consent approach (FAO 2016).

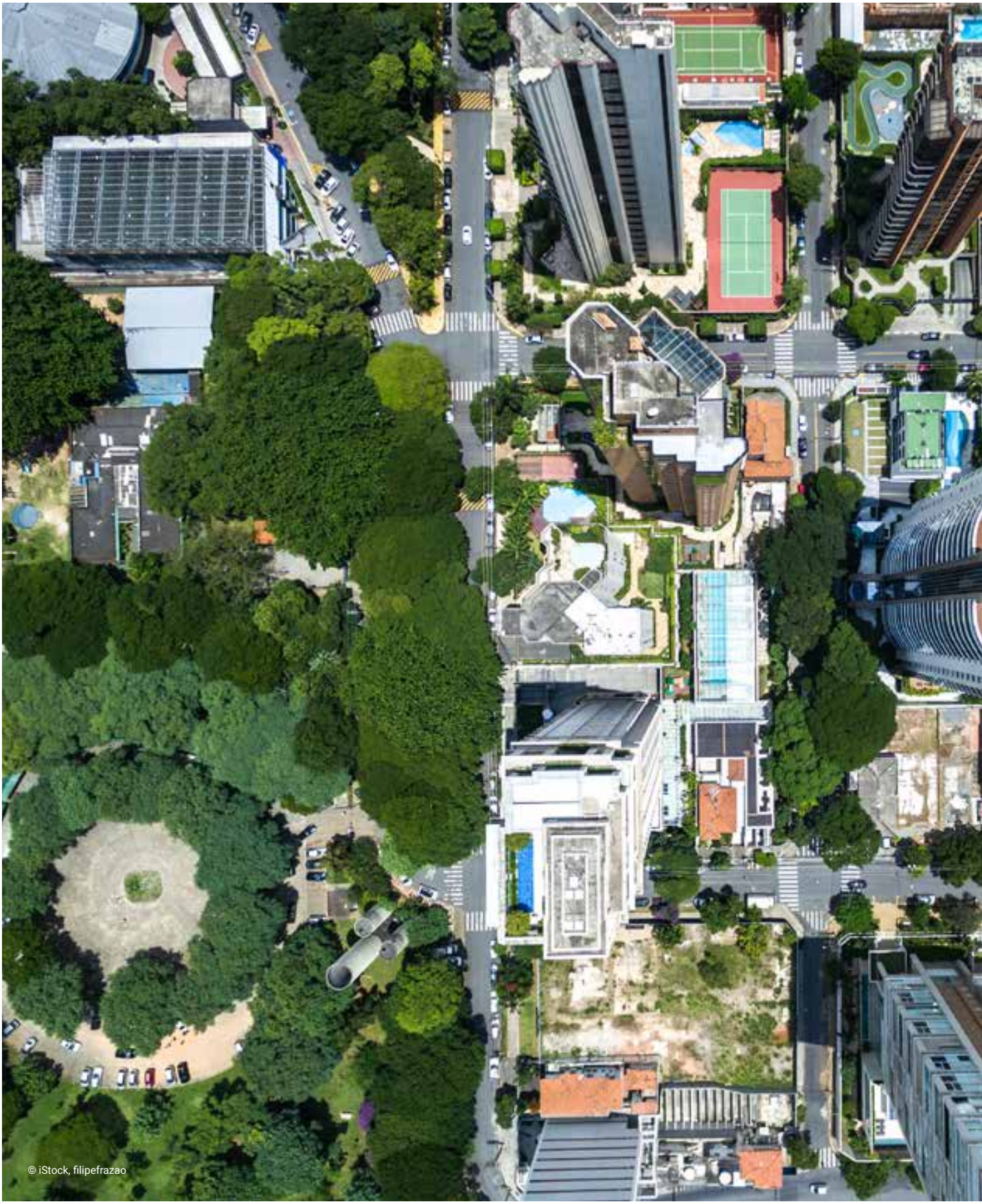
3 Additional information on these and other methods can be obtained from the bibliographical references included in the text.

4 Decision theory shows that group discussions often reach a "false" consensus, in the sense that the most persuasive individuals (but not necessarily the most knowledgeable) tend to dominate the discussions and impose their views. This masks the views of the rest of the stakeholders, thus hiding concerns that will eventually surface when decisions are implemented, and ultimately hindering the implementation process.

5 These types of participatory process often take into account three interconnected dimensions: the private sector, including public-private coordination; inter-ministerial coordination; and public consultation.

6 In some settings, the reverse is true: subnational-level stakeholders are knowledgeable and reasonably available to participate in stakeholder engagement processes. This is typically the case in the context of individuals involved in natural resources management, who in many instances collect data and report on indicators that may be relevant to the engagement process.

7 For example, in Colombia private real-estate developers were involved in designing a large greenhouse gas emissions mitigation programme focused on land-use patterns that reduce private car use, while bringing about additional benefits in the form of reduced infrastructure costs and decreased commuter time, among others.



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Chapter 6
Regulatory framework

Like any other aspect of public policy implementation, implementation of a Nationally Determined Contribution (NDC) necessitates an appropriate regulatory framework. The extent to which a country's regulatory framework meets the requirements associated with implementing current climate change policies gives an initial measure of its appropriateness. Nonetheless, NDC implementation is likely to present challenges that are distinct from those posed by current climate change policies, in that NDC goals typically require more rapid, more coordinated action compared to traditional climate change goals. For this reason, in most instances only a case-by-case review of the specific regulatory requirements that NDC implementation may entail will provide a true measure of the appropriateness of the regulatory framework.

We define "regulatory framework" as the system of regulations, standards and administrative procedures that are relevant to NDC implementation and the mechanisms used to enforce their application. In practice, the regulatory framework is often articulated around a series of sectoral or issue-specific frameworks, such as those concerned with disaster-risk reduction, or electricity generation and distribution, for example. The various components of the regulatory framework fall under one of two main categories: primary legislation, or secondary legislation (Box 6.A).

The links between regulations and the institutions that uphold them is a recurrent issue in regulatory reform. Simply stated, the best regulation will fail to achieve its objective if the relevant institutions lack the capacities – human and financial resources, and skills – required to implement and enforce it. A further recurrent issue concerns the extent to which all relevant actors, both within and outside government, are involved to a sufficient extent in regulatory reviews to inform the review process, understand the implications of the revised legislation and be in a position to comply with it.

From a regulatory framework perspective, and in the case of those countries in which climate change policy goals are written into law as being voluntary, a precondition for NDC

Box 6.A **PRIMARY AND SECONDARY LEGISLATION**

Primary legislation refers to the laws issued by a government's legislative powers. These laws introduce broad policy directions and principles, and thus represent the framework within which that government's executive power operates. Secondary legislation, issued by a government's executive power, often consists of regulations and statutory instruments. Secondary legislation makes primary legislation operational by translating it into specific sectoral requirements.

implementation will be that primary legislation is amended. This is because the goals contained in the NDC are not voluntary: by ratifying the Paris Agreement, a country binds itself legally to pursuing the goals included in its NDC. Therefore, and for the countries referred to above, primary legislation will have to be amended to reflect the fact that NDC goals are not voluntary.

Nonetheless, most other regulatory framework revisions required for NDC implementation will only become apparent as individual NDC goals are translated into specific policies and actions (Box 6.B). At that point, care will have to be taken that regulations, standards and administrative procedures are efficient and effective. This might entail developing existing elements in the regulatory framework further, replacing some of the existing elements when they are deemed to be obsolete or developing new elements, as required.

6.1 Institutional capacities required with regard to the regulatory framework

Reviewing the regulatory framework entails a non-trivial analysis of a range of intertwined elements, notably legislative provisions, and institutional structures and processes. No single approach to do this exists, because the suitability of the method depends partly on the primary objective of the regulatory reform process. The following paragraphs outline the main features of three approaches, each having a distinct primary objective:

- Streamlining legislation, with the aim of eliminating regulatory inefficiencies, is the underlying reason behind many regulatory reform processes. The output of these processes, which are often driven by competitiveness concerns, is a simpler, more coherent regulatory body. The so-called regulatory guillotine is a prominent method for achieving this type of output (Jacobs and Astrakhan, 2006). In essence, this method consists of three review processes targeting all relevant pieces of legislation individually and exploring the extent to which each piece of legislation is deemed necessary, legal and efficient. The three reviews are conducted by, in this order, implementation and enforcement officers, ministry of economy staff and business representatives. Only the pieces of legislation that all three stakeholder groups deem satisfactory (that is, necessary, legal and efficient) are maintained. Adjustments are then introduced to the regulatory framework.

- Some regulatory review processes are driven by the need to ensure that, even in sensitive or rapidly changing policy environments, the regulatory body remains adequate. Nuclear energy safety provides a relevant example: regulatory frameworks in this area have to accommodate technological developments and international standards while reflecting national realities in terms of the size – future and planned – of nuclear energy installations. The International Atomic Energy Agency runs a peer review programme among its member states, the aim of which is to promote mutual learning and thus strengthen regulatory practices in this area (IAEA 2013). The review process scrutinises the full spectrum of aspects relevant to regulatory review, including institutional issues (separately for government and the regulatory body), core regulatory processes (namely, authorisation, review and assessment, inspection, enforcement, and regulation and guidelines), emergency preparedness and response mechanisms, and a range of additional technical and policy issues. The reviews are conducted by experts from other countries, who offer recommendations and suggestions to the host country. These experts assess the host country's regulatory framework against the internationally agreed standards that must be complied with as well as against general good practice.

- Regulatory reform can help fight corruption. Indeed, in some cases fighting corruption is the goal that drives regulatory reform processes. In an effort to support these types of processes, in 2012 the Organisation for Economic Co-operation and Development issued a toolkit that countries can use to inform the design of their regulatory reform agendas (OECD 2012). The toolkit helps assess the extent to which a country's regulations, regulatory institutions and regulatory processes are (i) consistent with, and supportive of, the rule of law and (ii) transparent and accessible. It further helps assess whether regulations (i) have been analysed to identify that they are both necessary and effective, and (ii) have been kept simple, unnecessary administrative burdens having been eliminated. Not least, the toolkit helps assess the extent to which regulatory enforcement and inspection are effective.

Common to the three approaches sketched out above is the need to consider regulations case by case and the usefulness of analysing both enablers and barriers to regulatory reform. Drawing on these lessons, the following three steps provide a generic guide for how regulatory reform could be approached in the context of NDC implementation:

- Translating NDC goals into specific **policy objectives**, as this makes it easier to determine the type of regulatory instruments that may be most suitable in implementing those objectives. For example, bans on new building projects in flood-prone areas may be relevant in the context of reducing vulnerability to flooding.

- Mapping the **regulatory needs** arising from the NDC goals against the elements of the regulatory framework in place. For example, in the case of the bans referred to above, implementing and enforcing them requires certain regulatory

Box 6.B **EXAMPLES OF POLICY INSTRUMENTS**

Regulatory instruments typically fall under one of three categories:

- Information-based strategies, such as awards, communication campaigns and voluntary accounting or reporting frameworks.

- Incentive-based instruments, such as subsidy removal, liability rules, marketable permits (notably emission reduction credits) and tax reform.

- Directive-based regulations, such as mandatory emission standards, licensing or permitting provisions and bans.

Table 6.A lists the regulatory instruments that have been used successfully in countries around the world to manage climate change mitigation. Because they have proved to be effective in many different contexts, it is reasonable to assume that they can be adopted in many countries. They are therefore presented here for illustrative purposes. It is worth noting that, while two countries may use the same instrument, the design of the instrument – and most notably its stringency – may differ.[1] Therefore, lessons can be learned with regard to both the type of instrument used and its design.[2]

Table 6.A **EXAMPLES OF SUCCESSFUL REGULATORY INSTRUMENTS FOR CLIMATE CHANGE MITIGATION**

SECTOR	INSTRUMENTS
Renewable energy	Feed-in tariffs; auctions; procurement policies; regulation and standards (for example, renewable energy mandates, flexible grid access, and net metering); renewable portfolio standards; renewable energy credits.
Transport	Vehicle taxes; fuel taxes and subsidies on public transportation and clean fuels; communication campaigns to promote public transport.
Industry	"Voluntary agreements" between government and industry; emissions trading; energy taxes.
Buildings	Standards and labels for appliances; subsidy reform; performance standards; certificates and regulations.
Forestry	Regulations to minimise land-use change in forested areas and ensure efficient use of wood products; subsidies for forest conservation.
Waste management	Landfills: taxation; ban on untreated or decomposable waste; standards (for energy capture and usage). Incineration and anaerobic digestion: tax exemptions (related to energy generation), emission standards. Recycling: green public procurement; producer responsibility codes.

These examples indicate that, for most sectors, all three types of regulatory instrument are applicable. Information-based instruments appear to be most common in highly competitive sectors, such as industry. Incentive-based instruments are common in all sectors and are used widely in most countries. Directive-based instruments appear to be most common in sectors with a few well-organised actors, notably transport.

structures, notably functioning permission-granting procedures, coupled with the data and analysis required to conduct risk assessments. Determining which of these structures need to be built or strengthened is the objective of this second step of the analysis.

- Anticipating **barriers to implementation** and introducing regulation to break them down. Whether regulatory structures need to be created or simply strengthened, barriers of different kinds will hamper implementation. As a part of the review of the regulatory framework, it is useful to consider the types of measures that can help break down such barriers and possibly reflect this in the revised regulatory framework. For example, insurance schemes can be used as an incentive to discourage building projects in flood-prone areas.

While this analysis has to be undertaken at the level of individual NDC goals, there is a need for consistency. This need is especially intuitive in the case of fiscal measures, for example, where revenue neutrality may be sought. Nonetheless, consistency is also relevant with regard to all other instruments so as to reap the potential synergies. For example, it is advisable that the risk assessments conducted for different types of problem share certain underlying premises and are integrated into national risk assessments, the preparation of which could be managed by a single entity. For these reasons, it is advisable that the review of the regulatory framework is undertaken by a single entity. In countries where it exists, the so-called oversight body would be well equipped to conduct the review of the regulatory framework, working closely with the NDC implementation body referred to in Chapter 2 (Box 6.C). In all other countries, the task could be entrusted to the NDC implementation body itself, or a separate entity specialised in regulatory issues that reports to it.

In addition to the capacities needed to conduct the analysis outlined above, strengthening the regulatory framework requires a further set of institutional capacities, namely those associated with the implementation of measures aimed to increase the transparency of the regulatory framework. Ensuring that the regulatory framework is transparent is a pre-condition for its effective use. Simply stated, changes in the regulatory framework have to be communicated to all relevant parties, they have to be understandable to non-specialists and they have to receive support from all relevant stakeholders. The latter can be achieved by clearly setting out the trade-offs involved in, and benefits arising from, the reform of the regulatory framework. Measures that can be taken to increase the transparency of the regulatory framework include consultation with relevant stakeholders, simplification of legislation, documentation of existing and planned regulation, and communication campaigns.

Box 6.C **INSTITUTIONS INVOLVED IN THE DEVELOPMENT OF THE REGULATORY FRAMEWORK**

Oversight body. Governmental entity responsible for enhancing quality in the regulatory process, drawing on a whole-of-government perspective to regulation, and benefiting from high-level political support.

Independent regulator. Autonomous entity that provides technical expertise and enjoys the delegated power to enact and enforce rules and regulations in specific sectors, such as energy or water utilities.

While in some countries oversight bodies are located in a central government agency (for example, under the Ministry of Economy in Mexico, or under the Cabinet Office in the United Kingdom), in smaller countries (for example, Denmark or Switzerland) the function is decentralised. The communication channels between the oversight body and the independent regulator will be different, depending on the arrangement (centralised or decentralised) made for the former.

Source: OECD (2004)

6.2 Regulatory framework-related institutional capacities that are required for NDC implementation, but that countries generally lack

This section presents key gaps in the institutional capacities required to review the regulatory framework in support of NDC implementation. The content in the section is based on a review of the recent literature, notably that on nationally determined contributions and national communications, as well as biennial (update) reports, among other sources. The text also draws on the responses to a questionnaire that sought to identify key challenges in this area (Annex 2).

POLICY OBJECTIVES. Some countries lack the capacities required to translate NDC goals into potential policy objectives and, on this basis, to identify policy instruments that can be used to implement the NDC's policy goals. The term "capacities" refers to both staff time and, in many instances, the knowledge required to conduct this kind of analysis. While the reasons for this are manifold, the inability to retain skilled staff can be a main driver for the limited technical capacities available in government in some countries.[3] The solution to this long-standing problem continues to elude governments that cannot compete with other potential employers.[4]

REGULATORY NEEDS. Two common institutional challenges hamper the identification of priorities with regard to improving the regulatory framework: insufficient coordination among different parts of government, and insufficient transparency in policy formulation. Coordination is needed to ensure that sectoral policy priorities are consistent and mutually reinforcing, without which an analysis of the weaker aspects of the regulatory framework is not possible. Similarly, transparency is required to reach a consensus on the scope of the existing regulatory framework and the potential shortcomings of it that may need correcting.

IMPLEMENTATION BARRIERS. Oversight bodies are ideally placed to review proposals for improvements to the regulatory framework (Box 6.C). However, in some of the countries where these bodies exist, they lack the political support needed to steer the process. Compressed calendars represent a second difficulty faced by

Kenya's review of its regulatory framework

Kenya's "National Climate Change Action Plan 2013-2017" is the country's first action plan on climate change, developed to implement the national climate change response strategy launched in 2010. Recognising the key role that institutional capacities play with regard to managing climate change, the plan puts forward recommendations in this area and identifies a number of specific priority actions to support this goal, including the following:

- Consult on, and adopt, a comprehensive climate change policy.
- Enact a stand-alone, overarching framework law on climate change.
- Through a miscellaneous amendments bill, amend key sectoral laws to ensure consistency with the goals in the national climate change action plan.
- Establish a high-level national climate change council and a national climate change secretariat tasked with coordinating implementation of the plan.

The recommendations outlined above reflect the outcomes of a comprehensive assessment of Kenya's existing policies, laws and institutional framework. This assessment identified policy and legislative gaps and barriers to the implementation of climate change measures. It further outlined institutional reform options. A key lesson of the process is that the scope of the analysis underpinning a regulatory reform process should be broad to ensure consistency across the multiple elements in the regulatory framework, from institutional capacities to the regulatory body to governance arrangements.

Source: MEMR (2013)

countries: because in practice there is limited time to review the regulatory framework and define instruments that help eliminate implementation barriers, in many countries these activities are conducted in a sub-optimal manner.[5] In addition to regulatory effectiveness, this affects the fundamental issue of budgetary allocations, which is relevant at all governance levels.[6]

6.3 Recommendations for bridging gaps in regulatory framework-related capacity

This section presents broad recommendations for overcoming the capacity gaps outlined above. It is based on guidance documents aimed at supporting the preparation of (intended) nationally determined contributions. The content further draws on the authors' experiences in working with developing country governments to prepare and implement NDCs as well as with related planning and implementation processes.

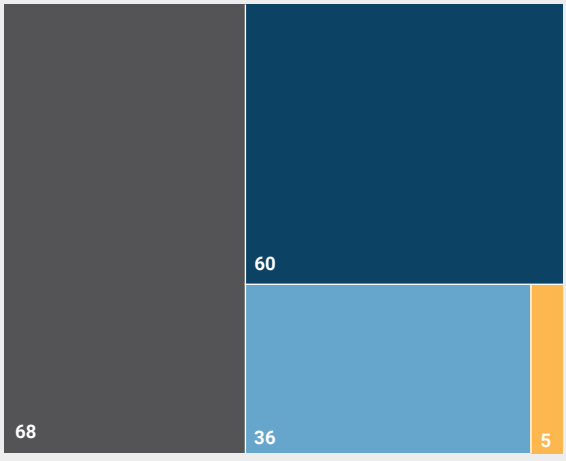
Its recommendations are as follows:

- **Identify gaps in the current regulatory framework.** As outlined above (Section 6.1), two tasks have to be undertaken before an assessment of the appropriateness of the regulatory framework can be conducted. First, NDC priorities must be translated into specific policy actions. Secondly, the regulatory requirements associated with implementing these actions efficiently and effectively must be decided. Once this information is available, gaps in the regulatory framework can be assessed. Assessing gaps involves two types of task: conducting a non-negligible amount of analysis, depending on the type of policy action concerned, and determining regulatory and related institutional needs. Regarding the former, experience shows that approaches from within welfare economics (rather than simpler cost-optimisation paradigms) are needed to define policy actions that are sustainable in the long-term. Regarding the latter, it is worth stressing that regulations are embedded in a larger institutional framework, which comes with its own requirements in terms of capacity-building: for example, an energy efficiency standard will most often require that testing laboratories and certification bodies are set up.

- **Take an integrated approach to the review of the regulatory framework.** Unlike secondary legislation, primary legislation cannot always be associated with a particular economic sector or public policy issue, because it often cuts across several sectors or policy areas. For this reason, a review of the regulatory framework must be designed as a whole-of-government undertaking, involving from the outset representatives from all ministries. This calls for strong governance arrangements, possibly relying on an oversight body (Box 6.C) to coordinate the overall effort. The initiative to start a review of the regulatory framework could therefore be used to strengthen (or establish, where absent) the required governance arrangements, which could formalise not only the review itself, but also regular monitoring and reporting provisions. The latter could underpin a process of continually evaluating the regulatory framework with a view to identifying shortcomings as they arise.

- **Ensure sufficient and timely communication flows.** Communication with both government and non-government stakeholders is indispensable before, during and after the regulatory framework review process. Dialogue is needed to set up a whole-of-government approach to the review process, as well as to conduct the process itself (see above). Not least, it is advisable that, once a consensus has been reached on any changes in the regulatory framework, the relevant governmental entity ensures that these changes are properly communicated to all relevant parties. This may entail purpose-developed communication campaigns, and possibly trainings, to ensure that those most directly affected by the changes in the regulatory framework are actually in a position to comply with the requirements associated with these changes.

REGULATORY FRAMEWORK-RELATED ELEMENTS IN THE NDCs



Source: Pauw *et al.* (2016)

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Notes

1 For example, a growing number of countries are introducing carbon taxes. Nonetheless, the effectiveness of the tax depends on a number of parameters, notably its rate, and the number and type of activities that are exempted from it.

2 Details on the design of an instrument (for example, tax rates on petrol) can be obtained from other sources, notably Nachmany *et al*. (2016).

3 The inability to retain skilled staff has implications far beyond reforming the regulatory framework. Nonetheless, it is arguably more critical in this area, which brings together technical, legal and institutional issues.

4 It is worth noting that, while an important factor, a competitive salary is not the only factor that allows government agencies to retain skilled staff (Chapter 4).

5 This is all the more problematic when stakeholders have limited availability and capacities.

6 Sub-national administrations may have to play a key role in policy implementation, especially with regard to adaptation to climate change. Yet, these administrations – and city-level administrations in particular – are seldom in a position to influence budgetary allocations. Inappropriate allocations at these levels can effectively paralyse the implementation process.

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Chapter 7
Reporting mechanisms

Reporting refers to the provision of information regarding progress in the implementation of a country's Nationally Determined Contribution (NDC). This includes information about reductions in emissions and vulnerability. It also includes information about the methods used to assess these reductions and the distribution of responsibilities with regard to obtaining the required evidence and communicating it to all relevant parties. In this chapter, we use the terms "reporting" and "reporting mechanisms" indifferently.

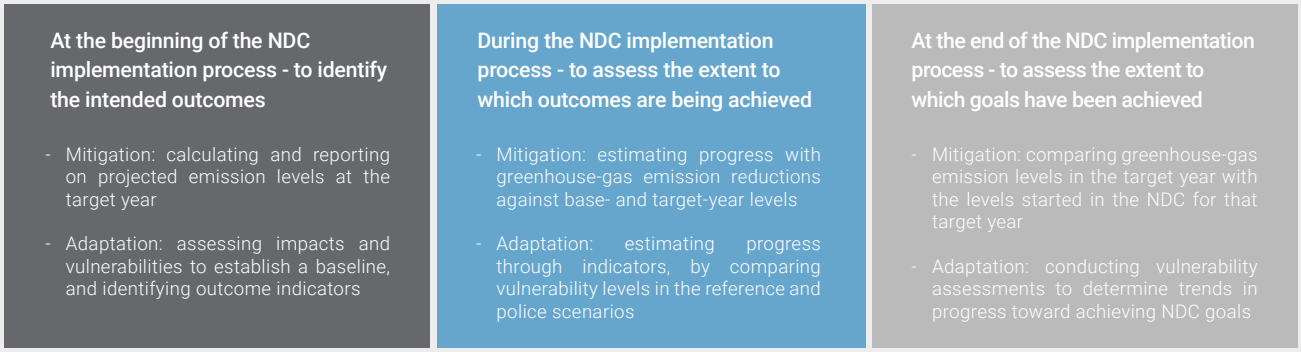
By ratifying the Paris Agreement, a country commits to making itself accountable for its contribution to achieving the goals of the agreement. A measure of accountability is provided by the efficiency and effectiveness with which a country's NDC is implemented. Reporting on NDC implementation supports the following key accountability functions:

- **Revealing if additional progress is needed by the end of the NDC implementation period.** Assessing the extent to which a country is on track to achieve its NDC goals is necessary from a planning point of view. To the extent that the assessment is negative, provisions have to be made to compensate for it. This affects both national- and international-level planning efforts, the so-called global stocktake being the most prominent example of the latter.

- **Reaping synergies between the United Nations' Sustainable Development Goals (SDGs) and the NDC goals.** There is widespread agreement that the SDGs and the NDC goals are mutually reinforcing. For example, increasing the share of solar energy in the energy mix, a goal that is common in many NDCs, helps achieve several SDGs, notably SDG1, SDG7, SDG9 and SDG11.[1] Coordinated action can help achieve both NDC goals and SDGs more quickly and, in many instances, using fewer resources.[2]

- **Living up to key requirements in the Paris Agreement.** Article 4 of the Paris Agreement states that parties "shall account for their nationally determined contributions", and it welcomes adjustments "with a view to enhancing [a national

Figure 7.A **MONITORING AND REPORTING OVER THE NDC IMPLEMENTATION PERIOD**



Source: adapted from UNEP-UNDP (2017)

determined contribution's] level of ambition". Article 13 of the Paris Agreement introduces a transparency framework, the goal of which is to "build mutual trust and confidence and to promote effective implementation". Paragraph 7 in Article 13 lists the information that countries are expected to provide to this end.

- **Providing transparent and comparable information to both national and international stakeholders.** Limited comparability across reports from different countries hampers global-level planning, including the need to ensure that countries take actions that are commensurate with their possibilities. The Paris Agreement goes some way towards correcting these shortcomings, with specific guidance on the reporting modalities that could be considered.

Monitoring and reporting on NDC implementation will have different objectives, depending on whether it takes place at the beginning, during or at the end of the NDC implementation period (Figure 7.A). The approaches required to prepare the information to be reported may differ from one stage to another.

7.1 Institutional capacities required with regard to reporting mechanisms

In the absence of an internationally agreed approach to reporting on NDC implementation, guidance can be offered about key aspects of reporting on climate-change policies and actions. This section attempts to do so, covering the following aspects: sources of information, types of information, roles and responsibilities, time frames, and quality assurance procedures.

SOURCES OF INFORMATION. Reporting on progress with NDC implementation adds to a number of reporting obligations on parties to the United Nations Framework Convention on Climate Change (UNFCCC) (Table 7.A). Key among these are national greenhouse-gas inventory reports, biennial reports and biennial update reports, and national communications (OECD/IEA 2016).[3] Most, if not all, the data collection and analysis mechanisms used to fulfil these reporting obligations can be used to report on progress with NDC implementation.

Identifying the needs for additional data and determining the feasibility of collecting them is likely to be one of the first steps in the NDC reporting process (Box 7.A). To do so, it is useful to prepare a full list of NDC objectives at a level that is as disaggregated as possible. This makes it possible to identify key outputs for each objective, which in turn facilitates the task of determining the metrics that can be used to track progress toward producing these outputs and, by extension, the associated data requirements.

TYPES OF INFORMATION. While the specific information reported in each NDC will differ from one NDC to another, in a reporting context three types of issue are likely to feature in most NDCs: performance against NDC objectives, the tools and methods being applied to achieve these objectives and the constraints faced.[5] In this context, it is worth noting that the known challenges associated with reporting on adaptation – notably the difficulty of obtaining aggregates of performance across geographical regions or even time horizons – are likely to require a large proportion of time and resources from those involved in reporting.

Most countries have experience of reporting on performance towards achieving quantitative objectives. With regard to qualitative objectives, in most instances reporting will require a qualitative scoring method. Such a method would have to reflect, as much as possible, the full range of issues of relevance, scored according to pre-established relative weights and criteria.

Table 7.A **NATURE OF REPORTING TO THE UNFCCC, BY TYPE OF PARTY**

Type of party	Type of report			
	National inventory report	*Information on impacts and adaptation*	*Information on support provided*	*Information on support needed and received*
Developed country parties	mandatory	encouraged	mandatory	n/a
Developing country parties	mandatory	encouraged	encouraged	voluntary

Source: UDP (2016)

In addition to the government accountability aspect, the appeal of reporting on the tools and methods used lies in the mutual learning element that such descriptions could have as reports from different countries become available. Including information regarding institutional arrangements would make those descriptions all the more valuable.[6]

At present, NDC implementation is generally approached as a one-off undertaking. However, this is likely to change as NDCs are updated and the NDC implementation process becomes more integrated with the national planning process (Chapter 8). From this point of view, it is useful to report on the constraints faced through the NDC implementation process.

ROLES AND RESPONSIBILITIES. A handful of actors will be directly involved in reporting on NDC implementation, with many more contributing to it indirectly. Even if they are light, governance structures created specifically to guide the work of the different parties involved can help increase the efficiency of the reporting process.

The allocation of roles and responsibilities among core actors in the process is likely to be similar to those of parallel reporting processes, notably the elaboration of biennial (update) reports. In addition to appointing a coordinating entity, the arrangements that may be required include the preparation or updating of monitoring guidelines and, for certain issues, the setting up or strengthening of accreditation and verification entities.[7]

TIME FRAMES. The transparency framework in the Paris Agreement is not specific about the time frames associated with reporting on progress with NDC implementation. It is likely that a decision on this will take into consideration the nature and timing of all other reporting obligations under the international climate change regime. The main such obligations have been cited previously in this section (in the sub-section on "Sources of information").

Taken together, the obligations referred to above represent a non-trivial reporting duty. For this reason, it can be envisaged that, rather than introducing one additional reporting requirement, the UNFCCC may request countries to provide a comprehensive overview of progress ahead of each quinquennial review of global progress (the so-called global stocktake). Interim progress reports, conveyed, for example, through national communications or biennial (update) reports, could complement this comprehensive overview.

QUALITY ASSURANCE PROCEDURES. Well-codified activities, notably the compilation of national inventories of greenhouse-gas emissions, are subject to detailed quality assurance procedures. These procedures, which may be described in a quality assurance plan, typically include requirements for data

Box 7.A **DETERMINANTS OF DATA NEEDS**

- **Nature of the commitments stated in the NDC.** Reporting on a quantitative target concerning, for example, greenhouse-gas emission reductions in the waste management sector will require both appropriate emission factors and activity data (on waste volumes, in this example).[4] Conversely, reporting on a qualitative target, such as protecting key infrastructure from climate change-related extreme weather events, may have to rely on scenario-based methods, possibly supported with the elicitation of expert judgements.

- **Nature of the analysis conducted to monitor progress.** Gauging progress through a complex analysis will in most instances necessitate more data and more detailed data, compared to a simpler analysis. For example, assessing vulnerability through participatory approaches will require less monitoring data than doing so by means of quantitative methods.

collection, provisions for independent verification and standards concerning data management and archiving methods.[8] Related, similarly detailed quality assurance procedures are not available for most of the various types of information that are needed in reporting on NDC implementation.

In some of the countries that have submitted two biennial (update) reports, a few of the practices and approaches used are in the process of consolidation and institutionalisation. This may lead to the gradual development of formal procedures, which are documented and adopted as standards in the country.

Ghana's "Climate ambitious reporting programme"

In 2013, the government of Ghana launched a new reporting mechanism for climate change mitigation. The introduction of the new mechanism entailed (i) a revision of the institutional arrangements that govern the collection of greenhouse-gas emissions data in the country, (ii) the establishment of an online data management facility, and (iii) the training of relevant government staff.

In the past, monitoring and reporting efforts were funded through one-off projects with large data collection components, notably the preparation of national communications, or biennial update reports. The funding available for these projects was insufficient to support a thorough and sustained effort aimed at improving monitoring and reporting capacities. The current programme relies on bilateral and multilateral funding earmarked specifically for improving these monitoring and reporting capacities. In the future, national budgetary allocations may be used to fund the continuation of this work.

Compared to earlier monitoring and reporting efforts, which relied on a series of ad-hoc institutional arrangements, the current programme is built around a clearer, more permanent and thorough allocation of roles and responsibilities: a number of working groups have been set up, each leading different aspects of the programme, and with specific mandates, timelines and budgets. A specific legal instrument (a memorandum of understanding) was introduced to strengthen collaboration among the relevant entities, both within and outside government. Weak enforcement of the memorandum thus far, especially with regard to governmental entities, may lead to it being replaced by a law or a regulation.

Source: IPMMRV 2015

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Even in cases where such formal procedures are not developed, experiences garnered in the preparation of the biennial (update) reports is certainly relevant in the context of reporting on NDC implementation.

7.2 Reporting-related institutional capacities that are required for NDC implementation, but that countries generally lack

This section presents key gaps in the institutional capacities required to report on progress with NDC implementation. The content in the section is based on a review of the recent literature, notably that on nationally determined contributions and national communications, as well as biennial (update) reports, among other sources. The text also draws on the responses to a questionnaire that sought to identify key challenges in this area (Annex 2).

SOURCES OF INFORMATION. A lack of reliable information, and of quantitative data in particular, appears to be the most common challenge faced by countries. A lack of funding to set up comprehensive monitoring programmes is cited as a key reason for this. Limited expertise, a paucity of reporting methodologies and inadequate political support compound the funding challenge.[9] In some countries, therefore, the information reported is of limited quality, as it can seldom be verified against independent or alternative sources.

TYPES OF INFORMATION. Among the various types of information that are cited as problematic with regard to reporting, those related to adaptation to climate change systematically top the lists. As experience builds and data collection systems improve, reporting on adaptation is likely to improve too. In addition to adaptation-related information, climate finance data are often singled out as problematic in a reporting context. Possible reasons for this include the prominence of finance in international climate change negotiations and the perception that, given its seemingly straightforward quantitative nature, expectations about the quality of reporting on finance are high. Limited understanding of the definitions of climate finance and inadequate methodologies to report on it are among the main difficulties that countries face in this regard (Annex 1).

ROLES AND RESPONSIBILITIES. Most countries appear to have difficulties in coordinating data-collection efforts.[10] At one level, difficulties arise from limitations on financial and human capacity: there is never enough funding to set up all required data-collection programmes, and the staff involved in collecting the available data tend to be overloaded with other tasks. The lack of a mandate represents a further problem, structural in nature, which adds to these challenges. The term "mandates" refers to both the authority to request information and the duty to provide it. In addition to the public sector, the latter affects industry, which is especially reluctant to share data that are commercially sensitive.[11] In some instances, sub-national governments may have different incentives compared to national governments, and may thus be similarly reluctant to engage in data-collection efforts.

TIME FRAMES. Experience from national mitigation or adaptation plans, which pre-date NDCs, shows that the plan's adoption and actual implementation usually take longer than initially envisaged. Because most reporting arrangements are only worked out close to, or during, the implementation phase, there is little time to put these arrangements in place. As a result, some reporting mechanisms are sub-optimal in that there is limited time to reach a consensus on them, introduce the necessary institutional and regulatory changes, and train all relevant individuals. While these observations concern national mitigation or adaptation plans, it can be expected that, in some cases, NDC implementation will face similar challenges.

QUALITY ASSURANCE PROCEDURES. Most countries welcome guidance that is detailed without being prescriptive, thus allowing them to achieve the objective they are pursuing, which is the object of the guidance, but to do it in a way that is consistent with their specific needs and capabilities. At present, relatively little guidance is available that is directly relevant to reporting on NDC implementation, most notably in the area of adaptation. This has implications with regard to the quality of the reporting practices that will be used, especially when it comes to data collection and data analysis.

7.3 Recommendations for bridging gaps in reporting capacity

This section presents broad recommendations for overcoming the capacity gaps outlined above. It is based on guidance documents aimed at supporting the preparation of (intended) nationally determined contributions. The content further draws on the authors' experiences in working with developing country governments to prepare and implement NDCs as well as with related planning and implementation processes.

Its recommendations are as follows:

- **Define clear mandates and secure high-level support.** From a governance point of view, distributed responsibilities with regard to data collection are in most cases useful. However, for most other tasks associated with monitoring and reporting systems, notably the implementation of quality standards or the integration of different datasets, experience shows that a degree

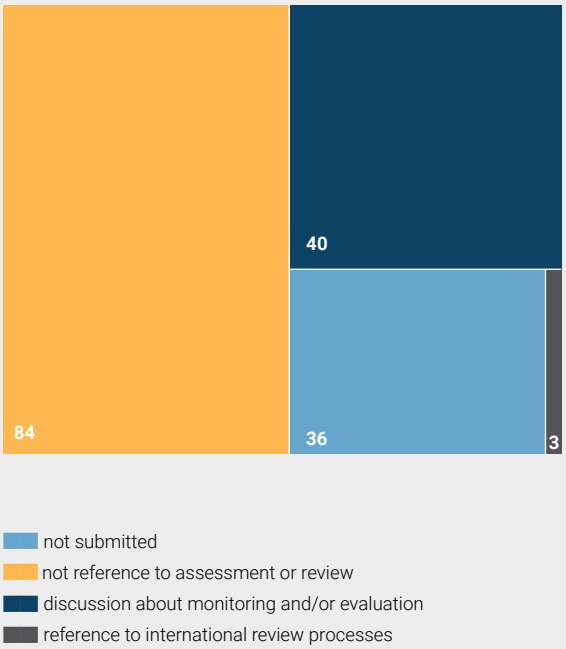
of centralisation is more efficient. Because the benefits of monitoring and reporting systems do not necessarily accrue directly to the entities that provide data to such systems, these entities may see few incentives in providing the data. For this reason, and especially in the context of centralised systems, clear mandates and high-level support are often needed. Mandates and support are generally easier to secure as part of integral efforts to strengthen monitoring and reporting systems.

- **Improve gradually upon existing systems.** When planning the strengthening of monitoring and reporting systems, it is advisable to temper the ambition inherent in most long-term plans with a sense of realism based on the human and financial resources available. In practice, this may mean taking a modular approach to strengthening monitoring and reporting systems: building on the structures available for data collection and management, improvements can be defined in the form of discrete tasks, each of which it makes sense to implement in its own right. Such a modular approach increases the flexibility of efforts to improve the monitoring and reporting system, in that it allows for improvement to be made as resources and political support become available. "Modules" can be defined in terms of either the additional sectors or issues for which data are being collected or the number of types of in-built analyses that the system can offer, for example.

- **Prepare guidelines for all relevant actors.** The outputs of monitoring and reporting systems are only as good as the data on which they rely and the associated processes of validating, harmonising and integrating different datasets. For this reason, it is often necessary to develop protocols that guide the way in which all activities associated with the monitoring and reporting system are conducted. Experience-sharing platforms, such as those facilitated by the International Partnership on Mitigation and Monitoring, Reporting and Evaluation, can be used to obtain an overview of current practices and the difficulties that practitioners face in their efforts to strengthen these practices. While practices can seldom be transferred directly, without some degree of adaptation, such overviews help kick-start the process of developing guidelines, while avoiding some of the pitfalls inherent in standardising an undertaking as broad as monitoring and reporting.

- **Mainstream monitoring and reporting.** Financial constraints are often cited as a key barrier to strengthening monitoring and reporting systems. To the extent that provisions for monitoring and reporting can be incorporated into sectoral development projects, these constraints can be lessened. The rationale for this approach is threefold. First, by developing monitoring and reporting systems from the bottom up, the costs incurred are distributed across the different sectors and issues being targeted. Secondly, these costs are likely to represent a small fraction of the overall budget of the sectoral development project concerned. Thirdly, the outputs of the monitoring and reporting systems set up in the context of a sectoral development project can be of direct use to the sector concerned, in that these outputs can help assess the performance of the project. This contrasts with top-down, multi-sector efforts to set up monitoring and reporting systems, which would require potentially large budgets, the use of which would have to be justified solely against the benefits of the monitoring and reporting system.

REPORTING-RELATED ELEMENTS IN THE NDCs



Source: Pauw *et al.* (2016)

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Notes

1 SDG1 is "end poverty in all its forms everywhere"; SDG7 is "ensure access to affordable, reliable, sustainable and modern energy for all"; SDG9 is "build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation"; SDG11 is "make cities and human settlements inclusive, safe, resilient and sustainable".

2 The German Development Institute and the Stockholm Environment Institute have developed an online tool that explores the connections between the climate change management goals contained in a mixture of 163 INDCs and NDCs, and the related national activities envisaged to implement the SDGs. The tool is available online at: https://klimalog.die-gdi.de/ndc-sdg/

3 Other requirements add to these. For example, the national inventory reports and national communications of Annex I Parties to the climate change convention undergo a review, as do the biennial reports, which are also subject to an international assessment. Similarly, the biennial reports of non-Annex I parties undergo analysis and are subject to an international consultation process. While these additional requirements do not entail separate reporting, they are directly associated with the main reporting effort. For this reason, fulfilling these requirements effectively broadens the scope of the reporting effort.

4 In the context of an interim report (Figure 7.A), projections of greenhouse-gas emissions may also be needed to determine the distance to target and, through this, assess the extent to which additional efforts may be required.

5 From an evaluative point of view, it can be very useful to report also on "deviations from the stated objective".

6 With regard to climate change mitigation, countries relying on so-called internationally transferred mitigation outcomes will certainly be expected to report on them.

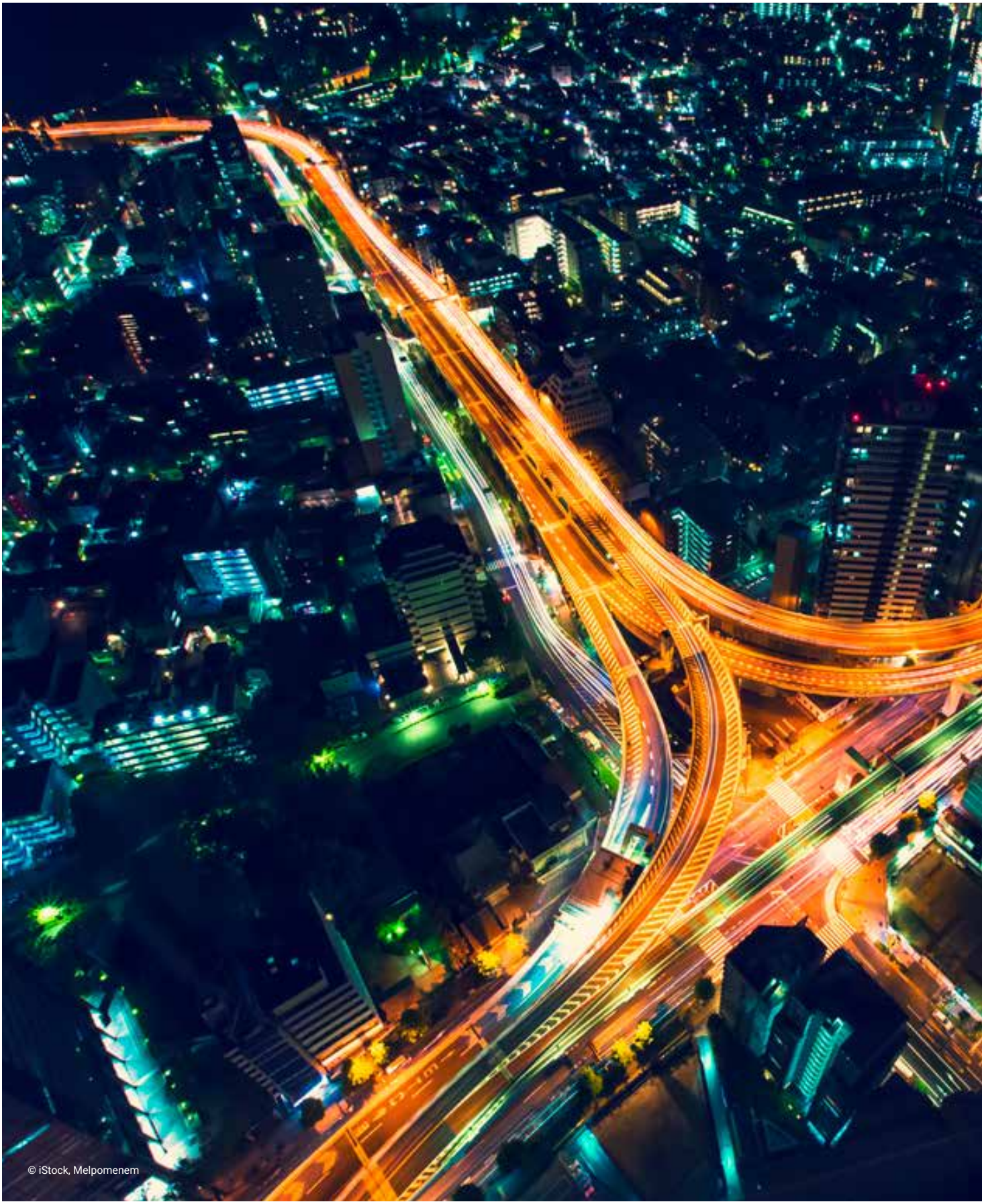
7 Furthermore, changes in regulation may be needed, for example, to introduce mandates for data collection. These questions are outlined in Chapter 6, along with all other aspects concerning the regulatory framework.

8 Independent verification typically involves either of the following procedures: verification against estimates obtained through different datasets and/or methods, or peer review of approaches undertaken by domestic or foreign experts.

9 At the project level, political support can be a function of the benefits that the relevant government (national or sub-national) may be able to reap from implementing that project. Simply stated, a project is more likely to receive support if the project cycle coincides with the government's term in office.

10 In addition to limited human capacities, redundancies in mandates across governmental agencies are responsible for some of the coordination challenges.

11 Opposition from industry has triggered innovative responses from government. In Tunisia, for example, to encourage industry to share data on greenhouse-gas emissions reductions, the government established a programme that meets industry's confidentiality requirements.



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Chapter 8
Concluding remarks

Drawing on both the literature and the authors' experiences, Chapter 1 introduces six types of institutional capacities that are central to implementing Nationally Determined Contributions (NDC). For each of these areas, Chapters 2 to 7 describe common capacity gaps and provide recommendations for bridging them.

Clearly, implementing the recommendations outlined in the previous chapters requires resources that, in most instances, may not be forthcoming. Experience with policy-making for climate change management shows that, to change this situation, a paradigm shift is needed. This chapter outlines three ideas around which such a paradigm shift could be built, namely (i) making a business case for private-sector investment in climate change management; (ii) exploring and quantifying the multiple benefits associated with development-oriented climate change management policies; and (iii) raising the level of ambition of climate change management policies.

PRIVATE SECTOR INVESTMENT. Over the past decade, the business case for private-sector investment in climate change management has been made repeatedly (Lovins 2008). In line with this, the investment opportunity associated with implementing the NDCs of 21 emerging-market economies has been estimated at USD 23 trillion to 2030 (IFC 2016).[1] In other words, decided climate change management policies, coupled with regulatory and other institutional reforms, can help create business opportunities that would attract massive private-sector financing for NDC implementation.[2] The reforms needed, which are well-known, take three main forms (NDCP 2017a). First, development and climate policies need to be mutually supportive (Chapter 3). Secondly, regulatory frameworks need to be business-friendly (Chapter 6). Thirdly, the public sector needs to be able (i) to catalyse such large investments, and (ii) to steer them in such a way that society as a whole benefits from them (Annex 1). While these requirements are challenging to meet, the prize associated with doing so surely warrants their being given due consideration.[3]

The strength of the business case for private-sector investment varies from country to country. Policy and political stability, a well-developed banking system, adequate insurance capacity and a skilled workforce are all pre-conditions for large-scale private-sector investment. Therefore, the arguments made in the previous paragraph are more applicable in some countries than in others. For example, in countries where financial risks are high (notably due to market risks of different types, liquidity concerns and counterpart risk), private-sector financing is unlikely to flow in large volumes.[4] In these situations, governments may want to focus on a small number of niche sectors and ensure that the conditions for private-sector investment in those sectors are met. Incipient developments in the energy sector in sub-Saharan African countries provide examples of how such niche markets can be created and nurtured in contexts where climate change management had seldom been seen as a business opportunity before (Nygaard and Bolwig 2017).

MULTIPLE BENEFITS. For certain aspects of climate change management, public policy is increasingly being designed against the background of the multiple benefits that such policy actions may bring about.[5] For example, in the area of climate change mitigation, the appeal of a programme to improve energy efficiency increasingly lies in its ability to generate employment and reduce local air pollution, among other potential benefits, in addition to the greenhouse-gas emission reductions that the implementation of the programme is expected to realise (Puig and Farrell 2014 ; OECD/IEA 2014). A similar phenomenon is becoming apparent in the area of adaptation to climate change, especially with regard to efforts to "climate-proof" infrastructure and preserve ecosystem functions that enhance resilience to a changing climate, in that such efforts are increasingly regarded as much as a development undertaking as an adaptation one (Mimura *et al.* 2014). In short, the line between climate-change management policies and development-oriented policies is gradually becoming blurred.

This trend is positive from two perspectives. First, it is beneficial from the viewpoint of the political economy of climate-change management policies, not least in light of persistent budgetary constraints. This is because funding for climate change, a single-issue public policy concern, the benefits of which may accrue only in the medium or long terms, will always be more challenging to secure compared to funding for a broader public policy programme that brings more tangible and immediate benefits to citizens, including climate change mitigation or adaptation benefits. Secondly, the trend is positive from the viewpoints of the efficiency and effectiveness of public policy, which benefit from closer integration. To illustrate this point, consider the implications of spending funds on a climate-change management programme, the objectives of which are undermined by a related development-oriented programme (for example, improving storm sewers to avoid urban flooding, while a construction project upstream turns water-retaining land into impervious surfaces).

Governments can capitalise on this trend by embracing it more fully through a redoubling of their efforts to integrate climate change concerns into sectoral development programmes (Chapter 3). To do so, and in addition to overcoming the limitations they may face with regard to the various institutional capacities outlined in the previous chapters, governments may find it challenging to align development-policy planning calendars with climate change-policy planning calendars. For some issues, only a long-term perspective may be possible. Similarly, some climate change concerns will be more amenable than others to the multiple benefits-based approach introduced above. For issues where such an approach may be impractical, notably in the context of adaptation to climate change, climate change funds may offer a workable alternative (Annex 1).

RAISING AMBITIONS. A review of all Intended Nationally Determined Contributions reveals that "many [countries] desire to build national innovation capacity", in the sense of developing or strengthening their research and development capacities in the area of climate change management, and using the NDC implementation process as a springboard for innovation in this area (UNFCCC 2016). While this remains an aspiration for many developing country governments, it reflects an ambitious reality in the case of a few such countries. Where governments have been in position to finance research and development, as is the case in the United Arab Emirates, for example, efforts to advance from low- to high-returns components of the value chain are easier to implement and sustain (Gereffi and Fernández-Stark 2016). In all other instances, although the transition may be slower, the available evidence suggests that climbing up the value chain, and ultimately building a "knowledge economy" in the area concerned, is possible.[6] Irrespective of whether or not government funding is sustaining the effort, all countries that have embarked on an innovation path share two distinctive features: ambitious targets (adaptation- or mitigation-related, as relevant) have been set for the sector or issue concerned, and long-term programmes have been developed and followed through. Doing this may require regulatory reform (Chapter 6) to maintain the focus in spite of changes in government, a great deal of coordination among both government and non-government agencies (Chapter 2) and broad consultations to secure buy-in from all relevant stakeholders (Chapter 5).

Likely upcoming issues with regard to institutional capacities for NDC implementation

Drawing on the authors' expertise and the insights of three specialists, the following paragraphs outline potential upcoming issues with regard to institutional capacities for NDC implementation. The interest in such an assessment lies in the forewarning nature of its conclusions: to the extent that these conclusions resonate with staff in governmental agencies involved in NDC implementation, it may be sensible for these agencies to take anticipatory measures. In practice, this would plausibly entail factoring in the issues outlined below in future efforts to strengthen institutional capacities.

INTEGRATION. Incorporating climate change concerns into sectoral policy priorities and plans, also referred to as "mainstreaming" climate change (Chapter 3), represents a major challenge for most, if not all, governments. Effectively, integration is an indispensable (albeit not sufficient) condition for the successful implementation of NDC goals and targets. For this reason, and to the extent that the NDC process can maintain, and possibly increase, momentum in the years to come, climate change planning is likely to become more closely embedded in development planning. However, for this to happen, governance arrangements will have to be strengthened substantially.

LONG-TERM VIEW. Longer planning horizons would be a likely consequence of the point highlighted above. There are two main reasons for this. First, development planning is based on time periods that are longer than those used in climate change planning (ten-year cycles, most often). Secondly, integration requires even longer time periods in that key infrastructure – for example, an electricity generation plant or a dike – has a useful life-time that goes well beyond these ten-year cycles. The same can be said for certain policy measures, notably those involving economic instruments or regulations.

COORDINATION. Changes in the way NDC implementation is coordinated would be a further consequence of increased integration. This is because the more climate change concerns are integrated into sectoral plans and programmes, the more sectoral government agencies are likely to be involved in the practical aspects of NDC implementation. In this model, the government agency in charge of climate change management, and responsible for NDC implementation, would gradually leave to sectoral government agencies the practical aspects of implementation in order to focus on coordinating cross-cutting issues, for example, ensuring consistency across the various implementation efforts.

SUB-NATIONAL GOVERNMENT. Local authorities are likely to play a very prominent role in NDC implementation, especially in the context of adaptation to climate change. With little doubt, incipient efforts to build the capacities of sub-national government entities will have to increase in the future.

STAKEHOLDER CONSULTATIONS. To date, climate change stakeholders have been treated mostly as a single entity. However, in a situation in which NDC goals were more fully integrated into development plans and programmes, this would change. This is because integration helps reveal trade-offs, which bring about the need for more nuanced policy planning and implementation processes. To inform these, equally nuanced consultations will be needed, thus bringing about the need to shift from a stakeholder engagement model characterised by "few and broad" consultations to one characterised by "multiple and specialised" consultations. The latter would require non-negligible capacity-building efforts, targeting both governmental agencies and non-governmental stakeholders.

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Notes

1 Consistent with most other analyses of public–private investment partnerships, the results cited in the text (taken from an analysis conducted by the International Finance Corporation) suggest that the private sector would deliver the majority of the investment, while the contribution by the public sector would be directed to reducing risks (for example, through risk-sharing facilities and low interest rates) and aggregating investments, among other measures.

2 Expressed more accurately, while NDCs create an environment that is favourable to investment, potential investments would only flow to actual projects.

3 It is worth highlighting that, in some countries, strong reliance on private sector financing for climate change management may be seen as an undesirable goal. In the case of climate change mitigation, natural resource-based sectors are more likely to be concerned. For example, investments affecting land-use and forestry management may be especially sensitive, notably if these investments could undermine the rights of indigenous peoples. In the case of climate change adaptation, low-probability, high-impact risks may be under particular scrutiny. This is because, lacking government subsidisation, and assuming a market for hedging solutions exists, costs are likely to be prohibitive for the poorest segments of the population.

4 In general, risk factors are key determinants of private-sector investment. A strong NDC implementation plan, including a sound methodology, realistic targets, a mapping of resources needed versus resources available, and commensurate human resources committed to it, will resonate more with investors because it signals that some form of risk management has been incorporated into the NDC implementation strategy. In such a situation, the costs of capital would be lower, and investment would be more likely to flow. In this context, it is worth noting that investors will always prefer the less risky portions of a project, leaving riskier investments (notably early-stage project development) to governments, which will typically rely on public finance (for example, soft loans) to fund this type of project.

5 In this context, "multiple benefits" refers to benefits including, but not limited to, reducing emissions of greenhouse gases, or increasing resilience to global warming.

6 Among other examples are Costa Rica (sustainable livestock management), South Africa (solar energy), Malaysia (bioenergy) and Bangladesh (adaptation in agriculture).

INSTITUTIONAL CAPACITIES FOR NDC IMPLEMENTATION

Annexes

Annex 1

Finance in the context of institutional capacities for NDC implementation

The Standing Committee on Finance of the United Nations Framework Convention on Climate Change (UNFCCC) states that "climate finance aims at reducing emissions, and enhancing sinks of greenhouse gases and aims at reducing vulnerability of, and maintaining and increasing the resilience of, human and ecological systems to negative climate change impacts" (UNFCCC 2014). Lacking an explicit definition of "climate finance" agreed by all parties to the UNFCCC, this text is the closest to an international consensus on what the concept of "climate finance" encompasses. In practice, "climate finance" is generally understood as covering both domestic and international flows of funding and investment originating from either public or private entities, and directed to supporting climate change management. This seemingly straightforward definition masks a number of important aspects of finance, over which there is disagreement. Key among these are (i) the notion of "additionality", and whether or not official development assistance should qualify as climate finance; and (ii) the difference between investment costs and the (higher) expenditure levels required to make the disbursements associated with these costs.

The Copenhagen Accord reflects the commitment made by developed countries to "[mobilise] jointly USD 100 billion dollars a year by 2020 to address the needs of developing countries" (UNFCCC 2009). With public budgets increasingly constrained, developed country governments have emphasised that, to meet their commitment in the Copenhagen Accord, innovative financing schemes will be needed. A 2015 report commissioned by the French government put forward a number of proposals to this end, several of which entail regulatory framework and governance reforms, to help leverage private-sector funds for climate change management (Canfin-Grandjean Commission 2015). The report highlights that most private-sector financing for climate change management flowing to developing countries is currently concentrated in a handful of countries, namely Brazil, India and China. More generally, the report underscores the need for structural changes in developing country institutional frameworks, without which financial flows – public and private alike – will in all likelihood continue to elude these countries. Against this background, the need to consider institutional reforms with a view to increasing a country's ability to attract financing to implement its Nationally Determined Contribution (NDC) appears self-evident.

In the context of mobilising finance for NDC implementation, strengthening institutional capacities is a multifaceted effort for which there is no single blueprint: each country has to conduct its own assessment because institutional frameworks vary from country to country, as do investment needs and financial risk profiles. Nonetheless, it is possible to group the key issues around four aspects that are likely to be applicable in most countries: financial governance, national climate funds, national budgeting processes, and detailing NDC priorities.

FINANCIAL GOVERNANCE. Attracting and managing the amounts of finance needed to implement NDC goals requires specific governance arrangements concerning the roles and responsibilities of the different government actors and the financial oversight rules applied to the finance flows mobilised. With regard to the first aspect (roles and responsibilities), clear decision-making procedures have to be agreed and coordination mechanisms established to ensure that all aspects of NDC financing are carried out in an effective and efficient manner. Involving the finance and planning agencies helps achieve stronger outcomes and a more credible process, both internally and in relation to external stakeholders, notably donor and private-sector financiers. With regard to the second aspect (financial oversight), it is important that the financial management practices of countries adhere to international good practice principles, to facilitate regular scrutiny by domestic or international actors, as well as to international fiduciary standards.

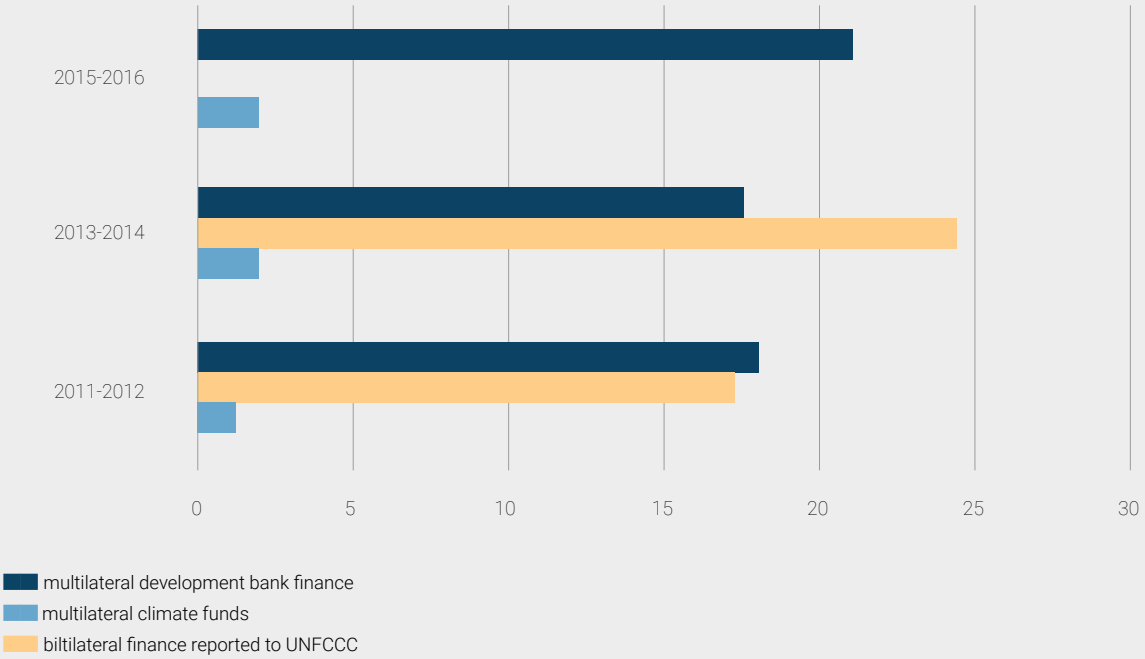
NATIONAL CLIMATE FUNDS. In some countries, national climate funds facilitate the collection, blending, coordination of and accounting for climate finance.[1] In the countries where this is the case, national climate funds channel most of the funding (including international funding) that is destined for climate-change management activities.[2] In these countries, these features

make national climate funds an important implementation tool, which becomes central to questions related to planning of expenditures and coordination among actors at all levels (international, national and sub-national). For national climate funds to perform this role efficiently and effectively, governments need to (i) define clear objectives and strategies for the fund and set-up appropriate organisational structures for it; (ii) introduce ambitious (but workable) project cycles and project implementation procedures; and (iii) enforce stringent monitoring and evaluation requirements.

NATIONAL BUDGETING PROCESS. Countries as diverse as Bangladesh, Cambodia, Ecuador, Grenada, Honduras, Nepal and Pakistan have taken steps to integrate climate change priorities into the national budget cycle. As experience builds up, this approach is increasingly being valued due to its ability to facilitate the mobilisation of international finance, and because it makes it possible for climate finance to leverage well-established accountability mechanisms. Adopting this approach entails a number of non-trivial measures, including revising guidelines for budget formulation and investment appraisal; instituting climate budget tagging systems; piloting new budget transparency and accountability measures in conjunction with national parliaments, civil-society organisations and the media; and including climate change in important budget documents.[3] The countries that have conducted so-called climate public expenditure and institutional reviews have gained valuable experience on most of these issues (Bird *et al*. 2012).

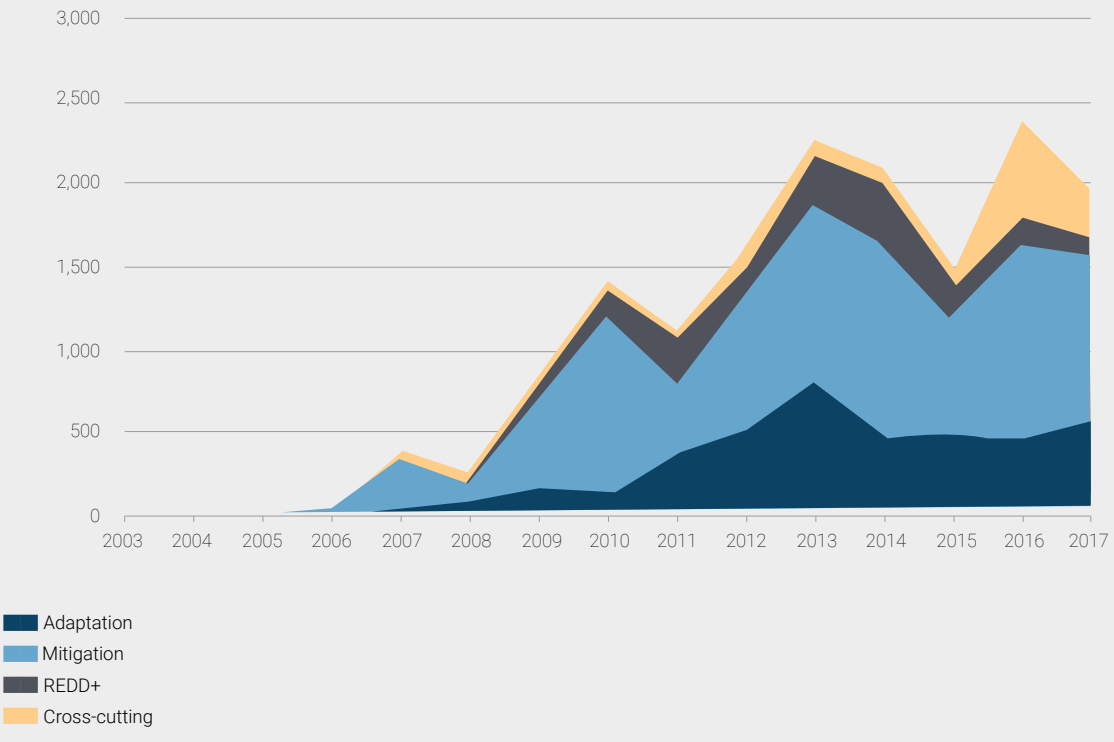
DETAILING NDC PRIORITIES. While the issues highlighted in the three previous paragraphs are arguably worth considering, irrespective of the state at which the NDC implementation process may be, detailing NDC priorities is a pre-condition for any financial analysis of the NDC. This is because the vast majority of goals and actions included in the NDCs are too generic to allow any kind of financial study beyond the broad mapping of options.[4] Therefore, in their efforts to secure finance for NDC implementation, governments may want to start by specifying what each NDC goal and action might entail in practice, thus detailing NDC priorities. Doing this requires that governments make use of the same types of partnerships and processes that were established to identify NDC priorities. In addition, this requires close cooperation with finance and planning ministries, relevant private-sector entities and bilateral and multilateral donors. For some of these actors, notably ministries and donors, an integrated approach covering all NDC priorities would be more efficient. Conversely, in most instances private-sector engagement may need to be approached on a case-by-case basis.

Public climate finance flowing to developing countries (USD billion)

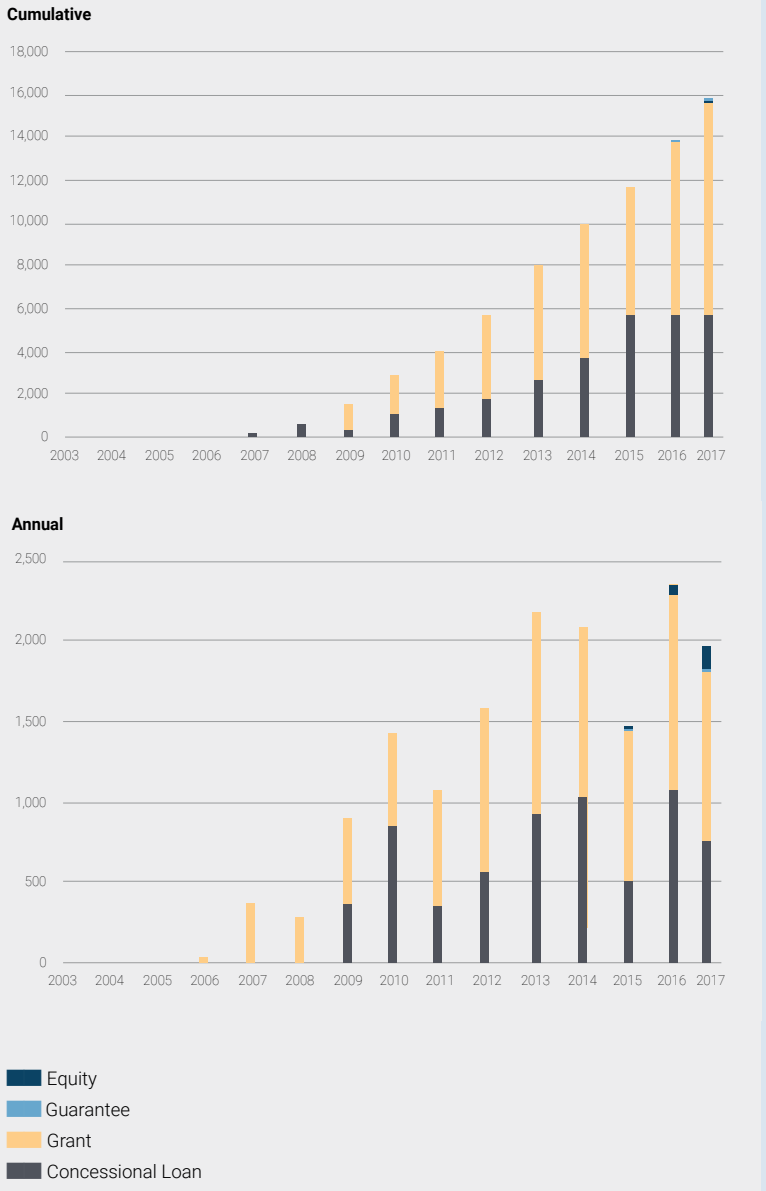


Note: data on 2015-2016 finance reported to the UNFCCC was not available at the time of writing

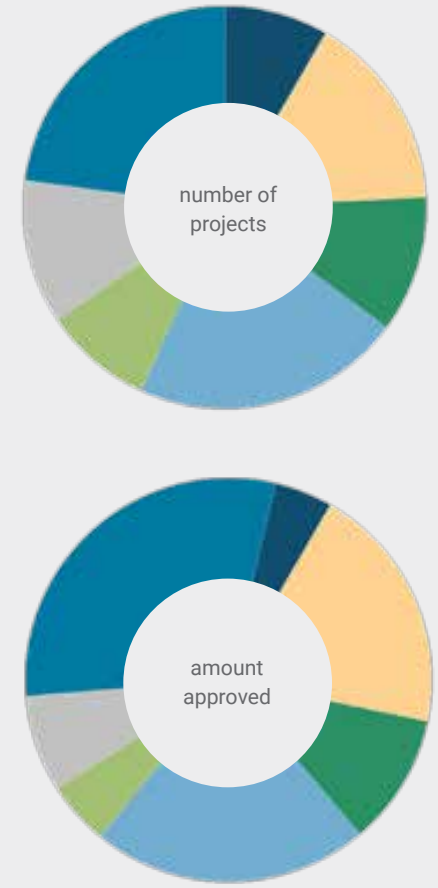
Approved finance through major dedicated multilateral climate funds (USD million, annually)



Financial instruments of dedicated multilateral climate funds (USD million)



Dedicated multilateral climate fund approvals by region in the period 2003-2017



Sources: CFU (n.d.) , JMDB 2012a , JMDB 2012b , JMDB 2013 , JMDB 2014 , JMDB 2015 , JMDB 2016 , JMDB 2017 , ODI/HBS 2016 , UNFCCC 2014 , UNFCCC 2016.

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Notes

1 Blending refers to the combination of domestic public finance, private finance and bilateral and multilateral finance.

2 In practice, national climate funds are often used for "low regrets" investments, while multilateral funds are tapped for investments that entail large incremental costs.

3 This text is drawn from a companion document (UNEP-UNDP 2017). The reader is referred to the finance chapter in that document for additional details.

4 The "mapping of options" refers to a crude clustering of NDC goals and actions into potential funding sources, such as domestic budgets, bilateral funds and multilateral funds, for example.

Annex 2
Methodology

The analysis presented in Chapters 2 to 7 is structured around three sections:

- Section 1 provides a description of the institutional requirements associated with the implementation of Nationally Determined Contributions (NDCs). For example, in Chapter 4 on human capacities, Section 1 outlines the type of human capacities that are needed to implement an NDC.

- Section 2 presents an assessment of the capacities that countries generally lack. This assessment, which is generic out of necessity, compares the capacity levels in most countries with the type and breadth of capacities outlined in Section 1.

- Section 3 provides recommendations for bridging the capacity gaps described in Section 2. These recommendations can be seen as a list of potential actions that governments may want to consider, depending on their actual needs and circumstances.

To document the information presented in Section 1, we relied on the following sources: national climate change policy plans, "environmental policy reviews" by the Organisation for Economic Cooperation and Development, and guidance aimed at assisting countries to prepare their (intended) nationally determined contributions.

To document the information presented in Section 2, we relied on the NDCs themselves, national communications to the United Nations Framework Convention on Climate Change, biennial (update) reports and the data collected through a questionnaire, which is included at the end of this annex.

To compile the recommendations presented in Section 3, we relied on guidance aimed at assisting countries to prepare their (intended) nationally determined contributions and our own experiences of working with developing country governments in planning and implementation processes, such as the Technology Needs Assessment Process and, not least of all, recent and on-going efforts associated with NDC preparation and implementation.

The analysis presented in Chapter 8 consists of two elements:

- A series of concluding remarks, which cut across the six topics discussed in Chapters 2 to 7.

- A description of likely future developments in the area of institutional capacities for NDC implementation.

The concluding remarks are based on the results of the work that went into preparing this document and our experience supporting developing countries with their (intended) nationally determined contributions.[1] Our choice of likely future developments in this area is informed by interviews with three specialists with complementary views on the issue and our own perceptions and experience.

Notes

1 Over the past two years we have supported 36 countries in preparing their (intended) nationally determined contributions (additional information on this work is available at: http://www.indcsupport.org/). Most recently we have also been helping countries implement their nationally determined contributions.

Questionnaire used to collect data for Section 2 in Chapters 2 to 7

Background

We would like to understand the extent to which developing country governments have the institutional capacities required to implement their Nationally Determined Contributions (NDCs). This information will help us compile guidance on this topic, which we are preparing on behalf of the United Nations Environment Programme.

To this end we have prepared the present questionnaire, which contains seven sets of questions. We would be most grateful if you could take a few minutes to respond to each question. We have sent the questionnaire to a total of eighteen developing country government agencies in Africa, Asia, and Latin America and the Caribbean.

Topic 1	**Institutional coordination**
Question 1.1	Kindly describe the institutional structures that you have in place (or intend to establish) to ensure appropriate coordination within government, and between government and other entities involved in NDC implementation. These structures could include, for example, a technical coordination unit in one of the ministries, and/or an inter-ministerial committee tasked to agree on strategic issues.
Question 1.2	What problems do you envisage facing, with regard to the institutional structures required to coordinate NDC implementation?
Question 1.3	Using a scale from 1 (very limited capacity) to 5 (very good capacity), how would you rank your 'institutional coordination' capacities, in comparison with the capacities you have in the other topics covered in this questionnaire?

Topic 2	**Sectoral integration**
Question 2.1	Kindly describe the mechanisms that you have in place (or intend to establish) to ensure that sectoral strategies and plans are consistent with the goals in the NDC. By sectoral we mean, for example, transport development strategies. These mechanisms could include, for example, a mapping of sectoral versus NDC priorities, or the introduction of ex-ante assessments of sectoral policies (with a view to ensure that environmental and other concerns, notably those prioritised in the NDC, are taken into consideration).
Question 2.2	What problems do you envisage facing, with regard to the integration of NDC priorities in sectoral strategies and plans?
Question 2.3	Using a scale from 1 (very limited capacity) to 5 (very good capacity), how would you rank your 'sectoral integration' capacities, in comparison with the capacities you have in the other topics covered in this questionnaire?

Topic 3	Training
Question 3.1	Kindly list the areas in which you feel government agency staff will need to be trained to be able to perform their duties with regard to NDC implementation. Examples include, for example, greenhouse-gas emissions accounting, or vulnerability assessments.
Question 3.2	Kindly indicate the problems you envisage facing with regard to training staff. Problems could relate to lack of funds or limited staff time, for example.
Question 3.3	Using a scale from 1 (very limited capacity) to 5 (very good capacity), how would you rank your "training" capacities, in comparison with the capacities you have in the other topics covered in this questionnaire?

Topic 4	Stakeholder consultation
Question 4.1	Kindly describe the mechanisms that you have in place (or intend to establish) to consult stakeholders and integrate their views in the NDC implementation plan. These mechanisms could include, for example, sectoral round-tables, or surveys to gauge civil society's opinion on selected issues.
Question 4.2	What problems do you envisage facing with regard to the consulting stakeholders?
Question 4.3	Using a scale from 1 (very limited capacity) to 5 (very good capacity), how would you rank your "stakeholder consultation" capacities, in comparison with the capacities you have in the other topics covered in this questionnaire?

Topic 5	Regulatory frameworks
Question 5.1	Kindly describe any regulatory revisions that you have introduced (or intend to introduce) specifically to support NDC implementation. These revisions could include, for example, changes in framework legislation, or the introduction of issue-specific regulatory requirements.
Question 5.2	What problems do you envisage facing with regard to the process of strengthening your regulatory framework?w
Question 5.3	Using a scale from 1 (very limited capacity) to 5 (very good capacity), how would you rank your "regulatory framework" capacities, in comparison with the capacities you have in the other topics covered in this questionnaire?

Topic 6	Reporting
Question 6.1	Kindly describe any mechanisms that you have in place (or intend to establish) to report on progress with NDC implementation. These mechanisms could include, for example, improvements in greenhouse-gas emissions data collection procedures, or integration of natural disaster and early warning data into climate change data collection processes.
Question 6.2	What problems do you envisage facing with regard to the process of strengthening your reporting capacities?
Question 6.3	Using a scale from 1 (very limited capacity) to 5 (very good capacity), how would you rank your "reporting" capacities, in comparison with the capacities you have in the other topics covered in this questionnaire?

Any other issues	
Question 7	In addition to the six issues highlighted in this questionnaire, are there any other institutional capacities in your country that you believe are weak, or missing altogether?

Annex 3
Datasets

Dataset 1. Status of NDC submission, by party to the UNFCCC

These data, which are presented graphically in Figure 1.A, have been drawn from the NDC registry by the United Nations Framework Convention on Climate Change (NDC Interim Registry (n.d.)). The information was current on November 5, 2017.

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7	Case 8	Case 9
Afghanistan	●								
Albania	●								
Algeria	●								
Andorra	●								
Angola				●					
Antigua and Barbuda	●								
Argentina		●							
Armenia	●								
Australia	●								
Austria	●								
Azerbaijan	●								
Bahamas	●								
Bahrain	●								
Bangladesh	●								
Barbados	●								
Belarus	●								
Belgium	●								
Belize		●							
Benin		●							
Bhutan	●								
Bolivia	●								
Bosnia and Herzegovina	●								
Botswana	●								
Brazil	●								
Brunei			●						
Bulgaria	●								
Burkina Faso	●								

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7	Case 8	Case 9
Burundi				●					
Cabo Verde	●								
Cambodia	●								
Cameroon	●								
Canada		●							
Central African Republic	●								
Chad	●								
Chile	●								
Colombia				●					
Comoros	●								
Cook Islands	●								
Costa Rica	●								
Cote d'Ivoire	●								
Croatia	●								
Cuba	●								
Cyprus	●								
Czech Republic	●								
Democratic People's Republic of Korea	●								
Democratic Republic of Congo				●					
Democratic Republic of Korea									●
Denmark	●								
Djibouti	●								
Dominica	●								
Dominican Republic	●								
Ecuador			●						
Egypt	●								
El Salvador	●								
Equatorial Guinea				●					
Eritrea				●					
Estonia	●								
Ethiopia	●								
European Union	●								
Fiji	●								
Finland	●								

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7	Case 8	Case 9
France	●								
Gabon	●								
Gambia	●								
Georgia	●								
Germany	●								
Ghana	●								
Greece	●								
Grenada	●								
Guatemala	●								
Guinea	●								
Guinea-Bissau				●					
Guyana	●								
Haiti	●								
Honduras	●								
Hungary	●								
Iceland	●								
India	●								
Indonesia		●							
Iran				●					
Iraq				●					
Ireland	●								
Israel	●								
Italy	●								
Jamaica	●								
Japan	●								
Jordan	●								
Kazakhstan	●								
Kenya	●								
Kiribati	●								
Kuwait				●					
Kyrgyzstan				●					
Laos	●								
Latvia	●								
Lebanon				●					
Lesotho	●								

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7	Case 8	Case 9
Liberia				●					
Liechtenstein	●								
Lithuania	●								
Luxembourg	●								
Libya						●			
Madagascar	●								
Malawi	●								
Malaysia	●								
Maldives	●								
Mali	●								
Malta	●								
Marshall Islands	●								
Mauritania	●								
Mauritius	●								
Mexico	●								
Micronesia	●								
Monaco	●								
Mongolia	●								
Montenegro				●					
Morocco		●							
Mozambique				●					
Myanmar	●								
Namibia	●								
Nauru	●								
Nepal		●							
Netherlands	●								
New Zealand		●							
Nicaragua							●		
Niger	●								
Nigeria	●								
Niue	●								
Norway	●								
Oman				●					
Pakistan	●								
Palau	●								

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7	Case 8	Case 9
Panama									●
Papua New Guinea	●								
Paraguay	●								
People's Republic of China	●								
Peru	●								
Philippines			●						
Poland	●								
Portugal	●								
Qatar	●								
Republic of Congo	●								
Republic of Korea	●								
Republic of Moldova	●								
Romania	●								
Russian Federation				●					
Rwanda	●								
Saint Kitts and Nevis	●								
Saint Lucia	●								
Saint Vincent and the Grenadines	●								
Samoa	●								
San Marino				●					
Sao Tome and Principe	●								
Saudi Arabia	●								
Senegal			●						
Serbia	●								
Seychelles	●								
Sierra Leone	●								
Singapore	●								
Slovakia	●								
Slovenia	●								
Solomon Islands	●								
Somalia	●								
South Africa	●								
South Sudan				●					
Spain	●								

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7	Case 8	Case 9
Sri Lanka		●							
State of Palestine					●				
Sudan	●								
Suriname				●					
Swaziland	●								
Sweden	●								
Switzerland	●								
Syria								●	
Tajikistan	●								
Thailand	●								
The former Yugoslav Republic of Macedonia				●					
Timor-Leste	●								
Togo	●								
Tonga	●								
Trinidad and Tobago				●					
Tunisia	●								
Turkey				●					
Turkmenistan	●								
Tuvalu	●								
Uganda	●								
Ukraine	●								
United Arab Emirates	●								
United Kingdom	●								
United Republic of Tanzania				●					
United States of America	●								
Uruguay			●						
Uzbekistan				●					
Vanuatu	●								
Venezuela	●								
Vietnam	●								
Yemen				●					
Zambia	●								
Zimbabwe	●								

Notes

- Case 1: INDC submitted, PA signed, PA ratified, INDC becomes NDC, NDC not updated

- Case 2: INDC submitted, PA signed, PA ratified, INDC becomes NDC, NDC updated

- Case 3: INDC submitted, PA signed, PA ratified, NDC not submitted

- Case 4: INDC submitted, PA signed, PA not ratified, submission remains INDC

- Case 5: no INDC submitted, PA signed, PA ratified, NDC submitted

- Case 6: no INDC submitted, PA signed, PA not ratified, no NDC

- Case 7: no INDC, PA not signed, PA ratified, no NDC

- Case 8: no INDC, PA not signed, PA not ratified, no NDC

- Case 9: no INDC submitted, PA signed, PA ratified, NDC submitted (and INDC submitted subsequently after)

- The updates referred to in Case 2 include changes to increase the ambition of the target (for example, from 32% below business as usual in the first submissions to 42% in the current submission in the case of Morocco's conditional target) and changes in the content of the submissions (for example, New Zealand removed the sections on "national circumstances" and "fairness and ambition").

Dataset 2. Type of NDC target

These data, which are presented graphically in Chapter 1, have been drawn from the NDC Explorer (Pauw *et al*. 2016).

Mitigation targets	
NDC not submitted	**36**
business as usual	**66**
absolute target	**28**
intensity target	**7**
peaking target	**2**
policies and actions	**29**
adaptation with mitigation co-benefits	**1**

Adaptation targets	
NDC not submitted	**36**
no quantitative adaptation target	**102**
target in one sector	**13**
targets in two or three sectors	**11**
targets in more than three sectors	**7**

Dataset 3. Approaches taken in the NDC (selected topics)

These data, which have been presented graphically in Chapters 2 to 7, have been drawn from the NDC Explorer (Pauw *et al.* 2016).

Planning of NDC formulation	
NDC not submitted	**36**
not indicated	**15**
planning mentioned (no details)	**17**
planning mentioned (details included)	**101**

Sustainable development goals	
NDC not submitted	**36**
no sustainable development goals mentioned	**110**
national sustainable development goals mentioned	**10**
United Nations' Sustainable Development Goals mentioned	**3**
aim to mainstream NDC contribution and SDG implementation	**10**

Conditionality of capacity-building	
NDC not submitted	**36**
Capacity-building not mentioned	**31**
Capacity-building mentioned	**10**
Capacity-building (partly) conditional on NDC implementation	**92**

Stakeholder consultation	
NDC not submitted	**36**
not indicated	**22**
mentioned	**52**
mentioned, and specific actors identified	**59**

Planning of NDC implementation	
NDC not submitted	**36**
not indicated	**5**
mentioned	**60**
mentioned, and specific regulatory needs identified	**68**

Monitoring and review	
NDC not submitted	**36**
no reference to assessment or review	**84**
discussion of monitoring and/or evaluation	**40**
reference to international review processes	**3**
section on domestic processes and reference to international review processes	**6**

Dataset 4. Data on selected climate change financing variables

This information, which is presented graphically in Annex 1, has been drawn from datasets collected by the Overseas Development Institute and the Heinrich Böll Foundation (Climate Funds Update). The original data can be found in the following documents: CFU (n.d.) , JMDB 2012a , JMDB 2012b , JMDB 2013 , JMDB 2014 , JMDB 2015 , JMDB 2016 , JMDB 2017 , ODI/HBS 2016 , UNFCCC 2014 , UNFCCC 2016.

Public climate finance flowing to developing countries (USD billion)			
	2011-2012	**2013-2014**	**2015-2016**
multilateral climate funds	1.2	1.9	1.8
bilateral finance reported to UNFCCC	17	24	not available
multilateral development bank finance	17.8	17.3	20.8

Note: Developed country parties to the UNFCCC are in the process of submitting their Biennial Update Reports, which will contain their bilateral spending in 2015-2016.

Approved finance through major dedicated multilateral climate funds (USD billion, annually)				
	Adaptation	**Mitigation**	**REDD+**	**Cross-cutting**
2003	4.0			
2004	5.4			
2005	0.2			
2006	3.9	59.0		5.2
2007	40.7	324.4		8.5
2008	75.6	140.0	4.0	36.4
2009	142.3	624.7	40.2	69.3
2010	105.3	1,112.7	141.0	41.7
2011	359.3	457.1	262.0	31.6
2012	495.8	794.6	229.5	74.8
2013	772.6	1,130.8	272.2	77.9
2014	478.0	1,186.5	345.9	87.7
2015	482.8	742.8	173.4	55.9
2016	449.2	1,211.7	129.3	592.9
2017	544.8	1,064.5	53.5	303.9

Note: Dedicated multilateral funds included: Adaptation for Smallholder Agriculture Programme, Adaptation Fund, Amazon Fund, Biocarbon Fund Initiative for Sustainable Forest Landscapes, Clean Technology Fund, Congo Basin Forest Fund, Forest Carbon Partnership Facility, Forest Investment Program, Global Climate Change Alliance, Global Energy Efficiency and Renewable Energy Fund, Global Environment Facility, Global Environment Facility, Global Environment Facility, Green Climate Fund, Indonesia Climate Change Trust Fund, Least Developed Countries Fund, MDG Achievement Fund, Partnership for Market Readiness, Pilot Programme for Climate and Resilience, Scaling-Up Renewable Energy Program for Low Income Countries, Special Climate Change Fund and the UNREDD Program.

Financial instruments of dedicated multilateral climate funds (USD million annually)				
	Grant	**Guarantee**	**Equity**	**Concessional loan**
2003	4.0			
2004	5.4			
2005	0.2			
2006	68.1			
2007	373.6			
2008	256.1			
2009	491.5			385.0
2010	517.4			883.3
2011	763.1			346.4
2012	944.8			648.7
2013	1,304.0			949.3
2014	1,079.5	5.0		1,020.3
2015	927.3	20.0	20	487.7
2016	1,093.4		125.6	1,160.1
2017	971.4	52.5	261.0	672.5

International climate finance by region in the period 2003-2017		
Region	**Overall amount of funding approved**	**Number of projects**
East Asia and Pacific	2,608	373
Europe and Central Asia	1,805	197
Latin America and the Caribbean	3,562	412
Middle East and North Africa	1,439	95
South Asia	1,904	145
Sub-Saharan Africa	3,764	561
Global and multi-regional projects	1,363	86
Total	16,445	1,869

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